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NOTES :

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C NASER BIN JAMEEL STREET

Consultants

steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

LIST OF DRAWINGS

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	NTS
Drawing No. :	R-000	Rev.	00

ABBREVIATIONS

GENERAL

ALTERNATE	ALT.
AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS	AASHTO
AMERICAN SOCIETY FOR TESTING OF MATERIALS	ASTM
ASPHALT BINDER COURSE	ASPHALT B.C
ASPHALT WEARING COURSE	ASPHALT W.C
AT	@
BASE LINE	℄
BENCH MARK	B.M.
BOX CULVERT	B.C.
CALIFORNIA BEARING RATIO	CBR
CARRIAGEWAY	C/W
CENTER LINE	℄
CENTER POINT OF CIRCULAR CURVE	C.P.
CENTIMETER	CMS.
CONCRETE	CONC.
CUBIC METER	CU.M
CONSTRUCTION JOINT	C.JT.
DIAMETER	DIA.,Ø
DRAWING	DWG.
DROP INLET	D.I.
EASTING	E
EMBANKMENT	Emb
ELECTRICITY POLE	E.P.
ELEVATION	ELEV.
EXCAVATION	EXC.
EXISTING SITE LEVEL	E.S.L
EXPANSION JOINT	EXP.JT.
GRADIENT	g
GUARDRAIL	G.R
HIGH TENSION ELECTRICITY LINE	H.T.
HIGHWAY	HWY.
HORIZONTAL	HOR.
INVERT	INV.
INVERT ELEVATION	I.E.
KILOMETER	Km.
LEFT	LT.
LEFT HAND SIDE	L.H.S.
LENGTH	L.
LINEAR METER	L.m.
MAXIMUM	MAX.
MEDIAN	MED.
METER	m.
MILLIMETER	mm.
MINIMUM	Min.
NATURAL GROUND LEVEL	N.G.L.
NORMAL CROWN	N.C.
NORTHING	N
NOT TO SCALE	N.T.S.
NOT IN CONTRACT	N.I.C.
NUMBER	No.,#
PERCENTAGE	%
PIPE CULVERT	P.C.
PRECAST REINFORCED CONCRETE	P.R.C
POINT OF HORIZONTAL INTERSECTION	P.I.
POINT OF VERTICAL INTERSECTION	P.V.I.
PROPOSED CONCRETE BARRIER LEVEL	P.B.L
PROPOSED DESIGN LEVEL	P.D.L.
RADIUS	R
RAILROAD	R.R.
REINFORCED CONCRETE	R.C.
RETAINING WALL	R.W.
REINFORCEMENT	REINF.
RIGHT	RT.
RIGHT HAND SIDE	R.H.S.
RIGHT-OF-WAY	R.O.W
ROUNDING	RND.
SETTLEMENT BASIN	S.B.
SHOULDER	SHL'D
SIDE WALK	S.W.
SPACING	SP.
SPILLWAY	S.
SQUARE METER	Sq.m.
STATION	STA.
STRAIGHT	STR.
SYMMETRICAL	SYM.
TYPICAL	TYP.
VERTICAL	VER.
WIDTH	W.
WINGWALL	W.W.

HORIZONTAL CURVE DATA

DISTANCE OF S.C. OR C.S. ALONG THE MAIN TANGENT WITH REFERENCE TO T.S OR S.T	X
DISTANCE OF S.C. OR C.S. PERPENDICULAR TO THE MAIN TANGENT WITH REFERENCE TO T.S OR S.T	Y
POINT OF INTERSECTION	PI
DEFLECTION ANGLE OF CIRCULAR CURVE	Δ
DEFLECTION ANGLE OF SPIRAL CURVE.	Θ,ΔS
FULL DEFLECTION ANGLE	Δf
LENGTH OF HORIZONTAL CIRCULAR CURVE	L
LENGTH OF TRANSITION CURVE(CLOTHOID)	Ls
LONG TANGENT OF TRANSITION CURVE	Ltan
POINT OF CURVATURE	PC
POINT OF CIRCULAR CURVE TO SPIRAL CURVE	CS
POINT OF TANGENCY	PT
POINT OF SPIRAL CURVE TO CIRCULAR CURVE	SC
POINT OF SPIRAL CURVE TO SPIRAL CURVE	SS
POINT OF REVERSE CURVE	PRC
POINT OF SPIRAL CURVE TO TANGENT	ST
POINT OF TANGENT TO SPIRAL CURVE	TS
RADIUS	R
SHORT TANGENT OF TRANSITION CURVE	STA
SUPERELEVATION RATE	SE , e
TANGENT	T

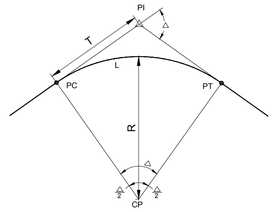
VERTICAL CURVE DATA

ARITHMETIC DIFFERENCE IN GRADES	A.D.
BEGINNING OF VERTICAL CURVE ELEVATION	BVCE
BEGINNING OF VERTICAL CURVE STATION	BVCS
END OF VERTICAL CURVE ELEVATION	EVCE
END OF VERTICAL CURVE STATION	EVCS
POINT OF VERTICAL INTERSECTION	PVI
LENGTH OF VERTICAL CURVE	L
RATE OF VERTICAL CURVATURE	K
PERCENT OF GRADE	- , + %

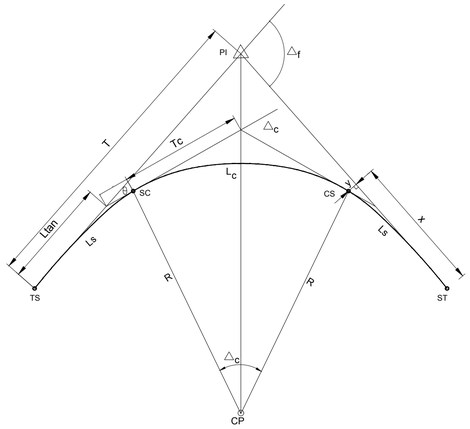
LEGEND

PLAN
CENTER LINE/BASE LINE
ELECTRIC HIGH TENSION TOWER
EXISTING CONSTRUCTION
EXISTING FENCE
HEADWALL
INLET TYPE (A)
POINT OF INTERSECTION
RAILWAY
RIGHT -OF- WAY LINE
R.C. BOX CULVERT
R.C. PIPE CULVERT
R.C. RETAINING WALL
TRAFFIC SIGN
CULVERT WINGWALL
PROFILE
BVCS & EVCS
BOX CULVERT
PIPE CULVERT
N.G.L
P.V.I
SINGLE LIGHTING POLE
TWIN LIGHTING POLE

PLAN :-

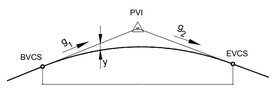


CIRCULAR HORIZONTAL CURVE COMPONENT ILLUSTRATION



CLOTHOID SPIRAL-CIRCULAR CURVE COMPONENT ILLUSTRATION

PROFILE :-



PARABOLIC VERTICAL CURVE COMPONENT ILLUSTRATION

NOTES :

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

ABBREVIATIONS AND LEGEND

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	NTS
Drawing No. :	R-001	Rev.	00

GENERAL NOTES :-

1. THE FOLLOWING DOCUMENTS AND SUBSEQUENT ADDENDA SHALL FORM THE BASIS OF THE CONTRACT, SPECIFICATIONS, METHODS OF CONSTRUCTION, MEASUREMENT AND PAYMENT ETC. AND SHALL FORM CONTRACT DOCUMENTS BINDING UPON THE PARTIES SIGNATORY TO THE CONTRACT AS RELATED TO ROADS:
   - TENDER ANNOUNCEMENT (INVITATION):
   - PART I GENERAL CONDITIONS (FIDIC 1999).
   - PART II SPECIAL CONDITION.
   - PART III SPECIFICATIONS.
   - PART IV SUBMISSION FORMS.
   - PART V ENGINEERING DRAWINGS.

2- THE WORK COMPRISES THE CONSTRUCTION & COMPLETION OF BRT RUNNING WAY AT A LENGTH OF 2.1 KM ON NASER BIN JAMEEL STREET AS SHOWN ON DRAWINGS, TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING:
   - A- PERFORM FULL DESIGN REVIEW, MODIFY AND REDESIGN ANY ERROR OR DISCREPANCY IN THE DESIGN.
   - B- REMOVING, DEMOLITION OR REALIGNMENT OF ANY OBSTRUCTIONS THAT AFFECT BRT RUNNING WAY ROUTE.
   - C- RUNNING WAY PAVEMENT & SUB LAYERS FOR BUS RAPID TRANSIT RUNNING WAY.
   - D- ADJACENT STREET PAVEMENT LAYERS EXTENSION AS SHOWN ON DRAWINGS OR DIRECTED BY THE ENGINEER.
   - E- ALL RETAINING WALLS SURROUNDING THE BRT RUNNING WAY WHERE NEEDED IN ADDITION TO THE WALLS AT THE R.O.W. EDGE OF THE ROAD IN CASE OF CUT/FILL.
   - F- ADJACENT SIDEWALKS, MEDIANS & DIVIDERS RUNNING ALONG THE BRT RUNNING WAY.
   - G- RESURFACING OF THE STREET CARRIAGEWAY ADJACENT TO THE BRT RUNNING WAY WITH A 5CM ASPHALT WEARING LAYER. CONTRACTOR SHALL PERFORM A SURVEY OF THE EXISTING PAVEMENT, PROPOSE THE LOCATIONS THAT NEED MILLING AND SUBMIT TO ENGINEER FOR APPROVAL.
   - H- NEW STORM WATER SYSTEM.
   - I- ADJUSTING THE HEIGHT OF EXISTING MANHOLES /CATCH BASINS OR ANY EXISTING STRUCTURE TO BE FLUSH WITH FINAL ASPHALT OR SIDEWALK FINISH LEVEL.
   - J- UNDERGROUND UTILITIES & CONDUITS UNDER STATION PLATFORMS AND UNDER MEDIANS AS SHOWN ON TYPICAL CROSS SECTION DRAWINGS.
   - K- THE FULL WIDTH OF EXISTING OUTER SIDEWALKS SHALL BE RECONSTRUCTED AS SHOWN ON DRAWINGS.
   - L- CONTRACTOR SHOULD SUBMIT IN CONSULTATION WITH G.A.M. A DEMOLITION & CONSTRUCTION PROGRAM WITH PROPER STAGING OF WORK SO AS TO GUARANTEE THE TRAFFIC MOVEMENT IN ALL DIRECTIONS, AND MINIMIZE THE IMPACT ON PEDESTRIANS DURING CONSTRUCTION, FOR ENGINEER'S APPROVAL.
   - M- INSTALLATION OF LIGHTING FACILITIES AS SHOWN ON DRAWINGS
   - N- INSTALLATION OF TRAFFIC SIGNALS AS SHOWN ON DRAWINGS AT DIFFERENT JUNCTIONS WITH ALL ASSOCIATE WORKS.
   - O- THE CONSTRUCTION OF AT-GRADE INTERSECTIONS AS PER ENGINEER'S INSTRUCTIONS AND AS SHOWN ON THE DRAWINGS.
   - P- THE CONSTRUCTION OF BRIDGE WITH TOTAL LENGTH OF AROUND 180 m TOGETHER WITH ASSOCIATE APPROACHES.
   - Q- CONSTRUCT THE PROJECT ELEMENTS USING AN EFFICIENT AND PRACTICAL MANAGEMENT PLAN WITH WORK SCHEDULE AND DETOUR PLAN TO ENSURE ADEQUATE TRAFFIC FLOW WITH MINIMUM DISTURBANCE IN THE PROJECT CRITICAL AREA.
   - R- THE PROJECT IMPLEMENTATION PLAN.

3- ALL STATIONS, DIMENSIONS & ELEVATIONS ARE IN METERS UNLESS OTHERWISE INDICATED.

4- CONTRACTOR ON AWARD OF CONTRACT MUST IMMEDIATELY:
   - a- LOCATE ALL SURVEY REFERENCE POINTS, BENCH MARK, P.Is... ETC. AND SET OUT CENTERLINE AND STATIONS AS SHOWN ON DRAWINGS
   - b-TAKE LEVELS OF NATURAL GROUND (JOINTLY WITH THE ENGINEER) AND SUBMIT TO THE ENGINEER BRINGING TO HIS ATTENTION ANY DISCREPANCY FROM THOSE SHOWN ON THE PROFILES.
   - c-CONCRETE ALL REFERENCE POINTS SHOWN ON DRAWINGS OR ANY NEW ONES NEEDED.

5- THE ENGINEER WILL STUDY THE LEVELS AND SITE CONDITIONS AND ADVISE THE CONTRACTOR OF ANY CHANGES IN THE HORIZONTAL ALIGNMENT AND/OR PROFILE DESIGN LINE IF ANY IS REQUIRED.

6- THE CONTRACTOR SHALL ALLOW FOR ALL THE ABOVE IN HIS RATES AND SHALL PLAN HIS WORKS ACCORDINGLY AND ALLOW SUFFICIENT TIME FOR THE ENGINEER TO STUDY AND EVALUATE ANY CHANGES NEEDED TO MEET SITE CONDITIONS. NO EXTRA PAYMENT OR EXTENSION OF TIME WILL BE CONSIDERED.

7- THE CONTRACTOR SHALL PREPARE DETAILED SHOP DRAWINGS FOR ALL THE SITE WORKS BASED ON THE DESIGN DRAWINGS. THOSE DRAWINGS SHOULD SHOW ALL DETAILS INCLUDING LEVELS , FEATURES , DRAINAGE CHANNELS , INLETS , MANHOLES ... etc. THOSE DRAWINGS SHOULD BE COMPLETED AND APPROVED BY THE ENGINEER PRIOR TO STARTING ANY WORK.

8- QUANTITIES SHOWN IN THE B.O.Q. ARE APPROXIMATE, PAYMENT FOR COMPLETED AND ACCEPTED WORK SHALL BE BASED ON THE APPROVED FIELD MEASURED QUANTITIES AS STATED IN THE SPECIFICATIONS.

9- ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONTRACT DOCUMENTS.

10- THE CONTRACTOR MUST SUBMIT WELL IN ADVANCE OF ANY WORK DETAILED PLANS SHOWING PROPOSED DETOURS AND DIVERSIONS. TRAFFIC IN BOTH DIRECTIONS MUST BE ALLOWED TO FLOW AT ALL TIMES. CONTRACTOR MUST OBTAIN ENGINEER'S AND POLICE PERMISSION PRIOR TO STARTING CONSTRUCTING ANY DIVERSION OR DETOUR.

11- THE ENGINEER HAS THE RIGHT TO CHANGE THE HORIZONTAL AND VERTICAL ALIGNMENT, UPON THE EMPLOYER REQUEST AND APPROVAL, CHANGE THE SECTION, ADD / CANCEL OR MODIFY ANY DRAINAGE STRUCTURE TO BEST SUIT SITE CONDITIONS.

12- SIDE SLOPES BOTH IN CUT AND FILL SHOWN IN THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR TO THE APPROVAL OF THE ENGINEER. SLOPES SHALL BE PROPERLY COMPACTED. ANY EROSION SHALL BE REPAIRED TO THE APPROVAL OF THE ENGINEER PRIOR TO PLACING OF ANY ASPHALT LAYER.

13- THE CONTRACTOR MUST, AND AT HIS OWN EXPENSE, PREPARE AS BUILT DRAWINGS AND SUBMIT TO THE ENGINEER. HE MUST POINT OUT ANY ALTERATIONS FOR CORRECTIONS REQUIRED IF SO INSTRUCTED. NO SEPARATE PAYMENT WILL BE MADE. COST DEEMED TO BE INCLUDED IN HIS UNIT BID PRICES.

14- CONTRACTOR MUST IMMEDIATELY CONTACT ALL AUTHORITIES CONCERNED - THE ELECTRICITY AUTHORITIES, THE TELEPHONE AUTHORITIES, THE WATER AUTHORITIES ETC. AND MAKE SURE OF THE LOCATION AND DEPTH OF ALL UTILITY DUCTS, CABLES, PIPES ETC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE AND FIX TOP LEVELS OF MANHOLES AND RELATED STRUCTURES AFFECTING THE WORK. THIS WORK SHALL NOT BE PAID DIRECTLY AND IS DEEMED TO BE INCLUDED IN THE PAY ITEMS.

15- WATER LINES, MANHOLES, FITTINGS, HOUSE CONNECTIONS IN THE EXISTING ROAD MUST BE DEALT WITH CAREFULLY DURING ROAD CONSTRUCTION WORKS. ANY DAMAGE TO THE WATER NETWORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

16- THE CONTRACTOR AND AT HIS OWN EXPENSE SHALL CARRY OUT DETAILED GEOTECHNICAL INVESTIGATION TO VERIFY CHARACTERISTICS OF THE SITE INCLUDING CBR, CUT AND FILL STABLE SLOPES,.....etc, ALL TO THE APPROVAL OF ENGINEER.

17- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING STORMWATER LINES, WATER LINES, CABLES AND ANY OTHER UTILITY ITEMS AND OBTAIN PERTINENT INFORMATION REGARDING THESE UTILITIES FROM AUTHORITIES AND DIRECTLY FROM SITE TO SATISFY HIMSELF BOTH FOR TENDERING PURPOSES AS WELL AS EXECUTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE UTILITY ITEMS.

18- NO EXPLOSIVES USED WITHOUT A WRITTEN PERMISSION FROM THE SECURITY AND OTHER CONCERNED AUTHORITIES. STORAGE, HANDLING, TRANSPORT AND DETONATIONS SHALL ALL BE DONE UNDER STRICT SUPERVISION OF ABOVE AUTHORITIES.

19- NO DIRECT PAYMENTS SHALL BE MADE FOR OVERHAUL, BORROW, FINISHING ROADBED, WATERING, COMPACTING, AND ROLLING. THESE WORKS SHALL BE CONSIDERED AS SUBSIDIARY OBLIGATIONS OF THE CONTRACTOR, COVERED UNDER THE CONTRACT UNIT PRICES OF EARTHWORKS AND EXCAVATIONS ITEMS.

20- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SAFETY PRECAUTIONS INCLUDING NEWJERSEY BARRIERS, SIGNAGE, FENCES AND WHATEVER IS NEEDED TO PROTECT THE VEHICLES AND PEDESTRIANS, DURING AND AFTER CONSTRUCTION.

21- THE CONTRACTOR IS REQUIRED TO COORDINATE WITH OTHER CONTRACTORS WORKING ON THE SITE OF THE PROJECT.

NOTES :

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C NASER BIN JAMEEL STREET

Consultants

steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

GENERAL NOTES

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
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Drawing No. :	R-002	Rev.	00

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Rev.	Date	Description	Checked

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Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

GENERAL PLAN

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
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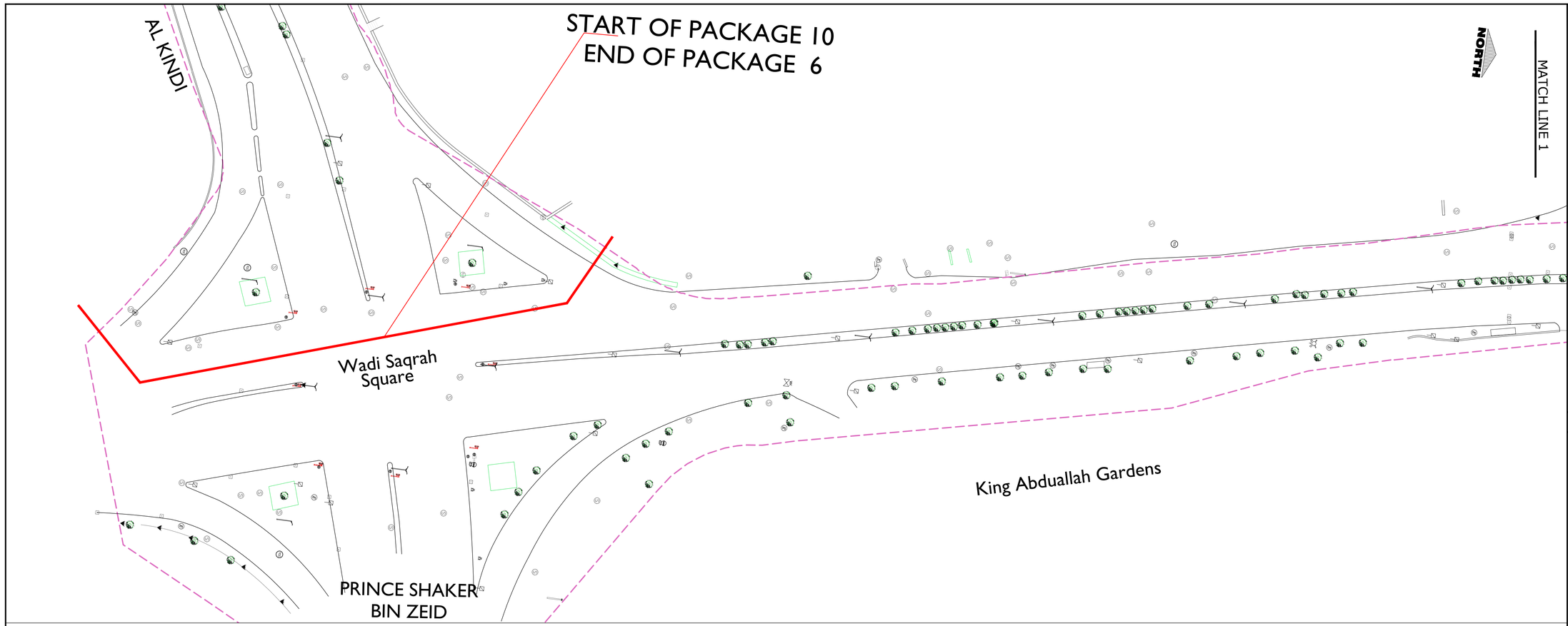
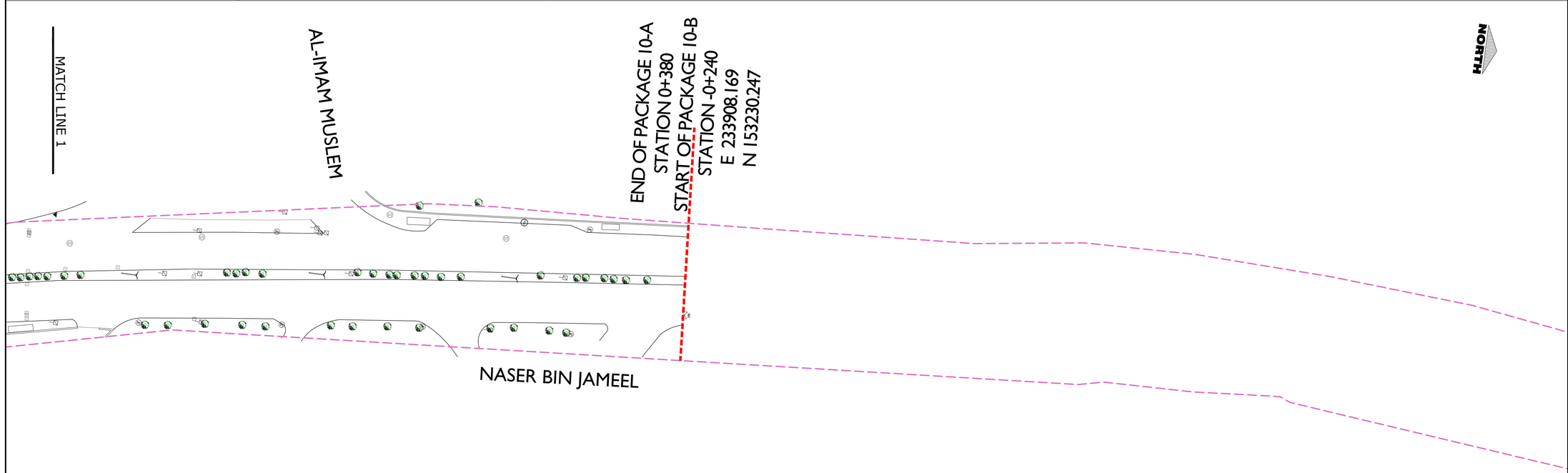
Approved By	H. ALSALHI	Scale	1:3500
Drawing No. :	R-050	Rev.	00





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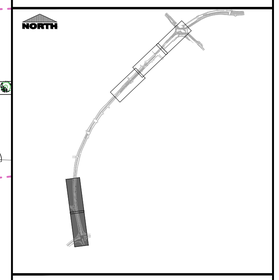


Legend

	Asphalt Edge		Medium Tension
	Bridge asphalt edge		Path
	Tunnel asphalt edge		Pole
Build.	Building		Pipe
Bot.	Bottom level		Rain manhole
	Bridge		Riprap
	Building layout		
	Caravan		Sewer manhole
	Camera pole		Side walk
	Cabinet		Sign
	Column		Slab
	Concrete Slab		Stall
	Control point		
	Electric pole		Stair
	Electric light pole		Steel Stair
	Fence		Stone wall
	Fill		Telephone pole
	Flag pole		Telecom manhole
	Flood light		Track road
	Garden		
	Gate		Traffic sign
	Guard rail		Tree
	Grass		Tree line
	Hydrant		High tension
	Hangar		
	Handrail		Tunnel
h=	Height		Bus Shelter
INV	Invert level		Wall
L	Level	w=	Width
	large sign		Water key
	Light pole		Water manhole
	Manhole		Zinco building
	Manhole of traffic sign		R.O.W.

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

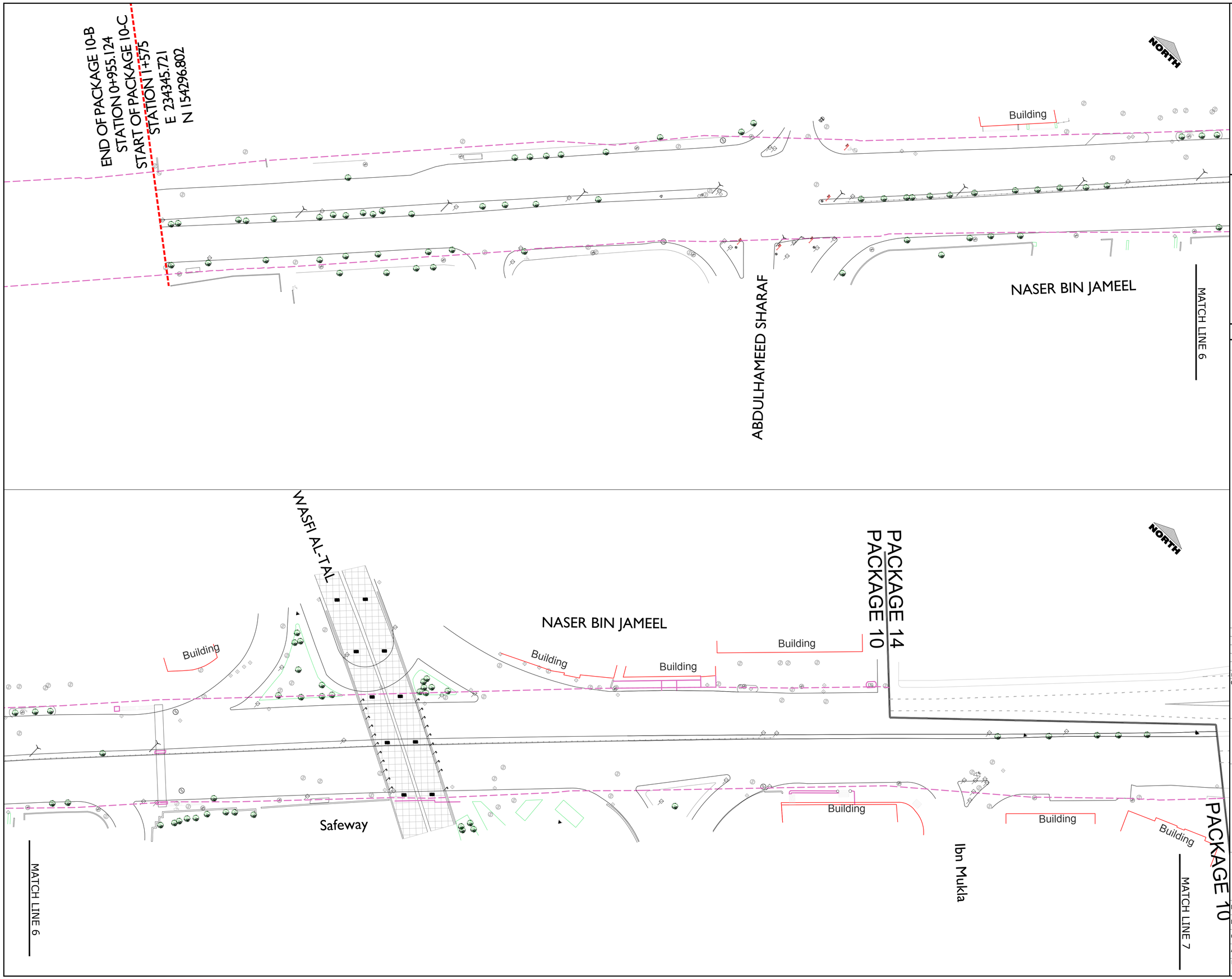
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

EXISTING SITE PLAN
(1 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-051	Rev.	00



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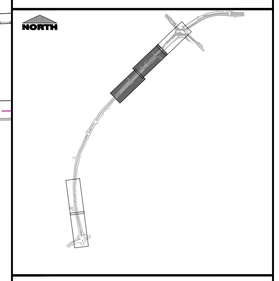


Legend

	Asphalt Edge		Medium Tension
	Bridge asphalt edge		Path
	Tunnel asphalt edge		Pole
Build.	Building		Pipe
Bot.	Bottom level		Rain manhole
	Bridge		Riprap
	Building layout		
	Caravan		Sewer manhole
	Camera pole		Side walk
	Cabinet		Sign
	Column		Slab
	Concrete Slab		Stall
	Control point		Stair
	Electric pole		Steel Stair
	Electric light pole		Stone wall
	Fence		Telephone pole
	Fill		Telecom manhole
	Flag pole		Track road
	Flood light		Traffic sign
	Garden		Tree
	Gate		Tree line
	Guard rail		High tension
	Grass		Tunnel
	Hydrant		Bus Shelter
	Hangar		Wall
h=	Handrail	w=	Width
INV	Height		Water key
L	Invert level		Water manhole
	Level		Zinco building
	large sign		R.O.W.
	Light pole		
	Manhole		
	Manhole of traffic sign		

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

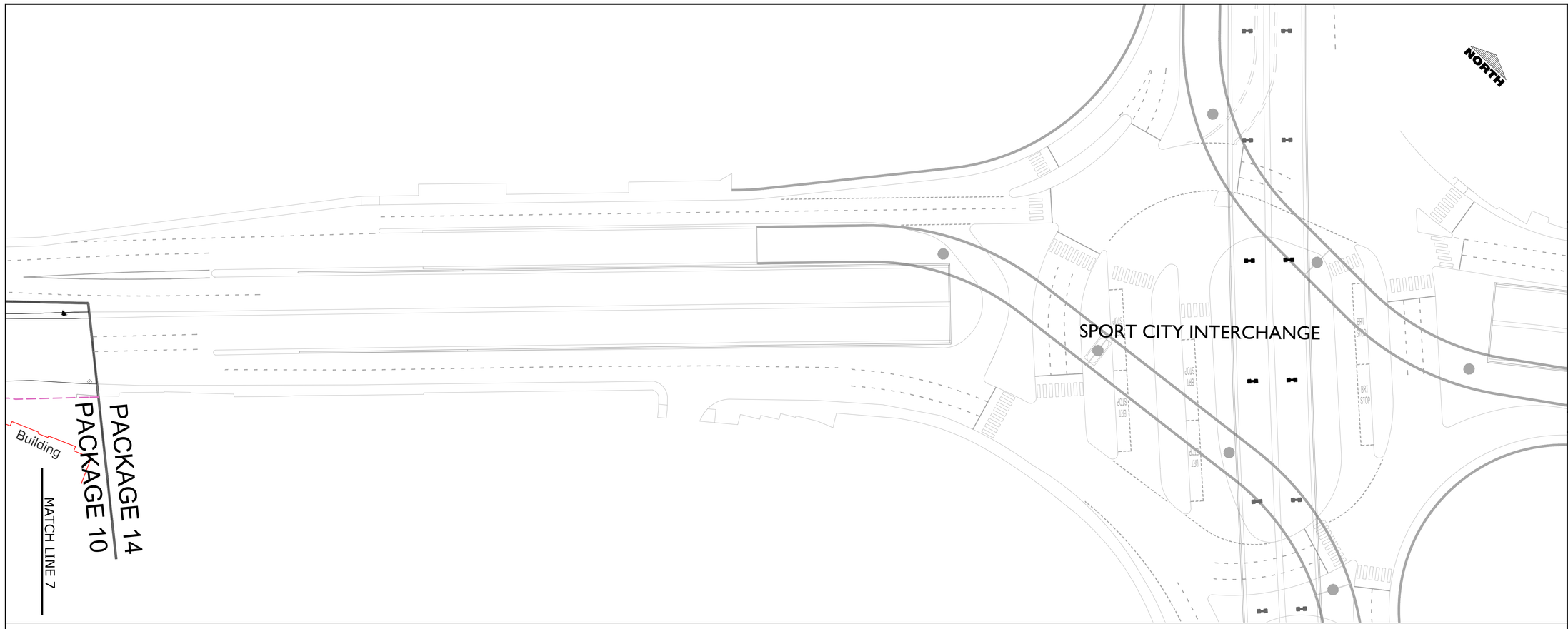
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

EXISTING SITE PLAN
(2 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-052	Rev.	00



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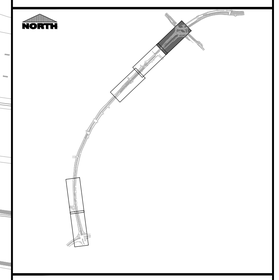


Legend

	Asphalt Edge		Medium Tension
	Bridge asphalt edge		Path
	Tunnel asphalt edge		Pole
Build.	Building		Pipe
Bot.	Bottom level		Rain manhole
	Bridge		Riprap
	Building layout		
	Caravan		Sewer manhole
	Camera pole		Side walk
	Cabinet		Sign
	Column		Slab
	Concrete Slab		Stall
	Control point		Stair
	Electric pole		Steel Stair
	Electric light pole		Stone wall
	Fence		Telephone pole
	Fill		Telecom manhole
	Flag pole		Track road
	Flood light		Traffic sign
	Garden		Tree
	Gate		Tree line
	Guard rail		High tension
	Grass		Tunnel
	Hydrant		Bus Shelter
	Hangar		Wall
	Handrail		Width
h=	Height		Water key
INV	Invert level		Water manhole
L	Level		Zinco building
	large sign		R.O.W.
	Light pole		
	Manhole		
	Manhole of traffic sign		

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C NASER BIN JAMEEL STREET

Consultants

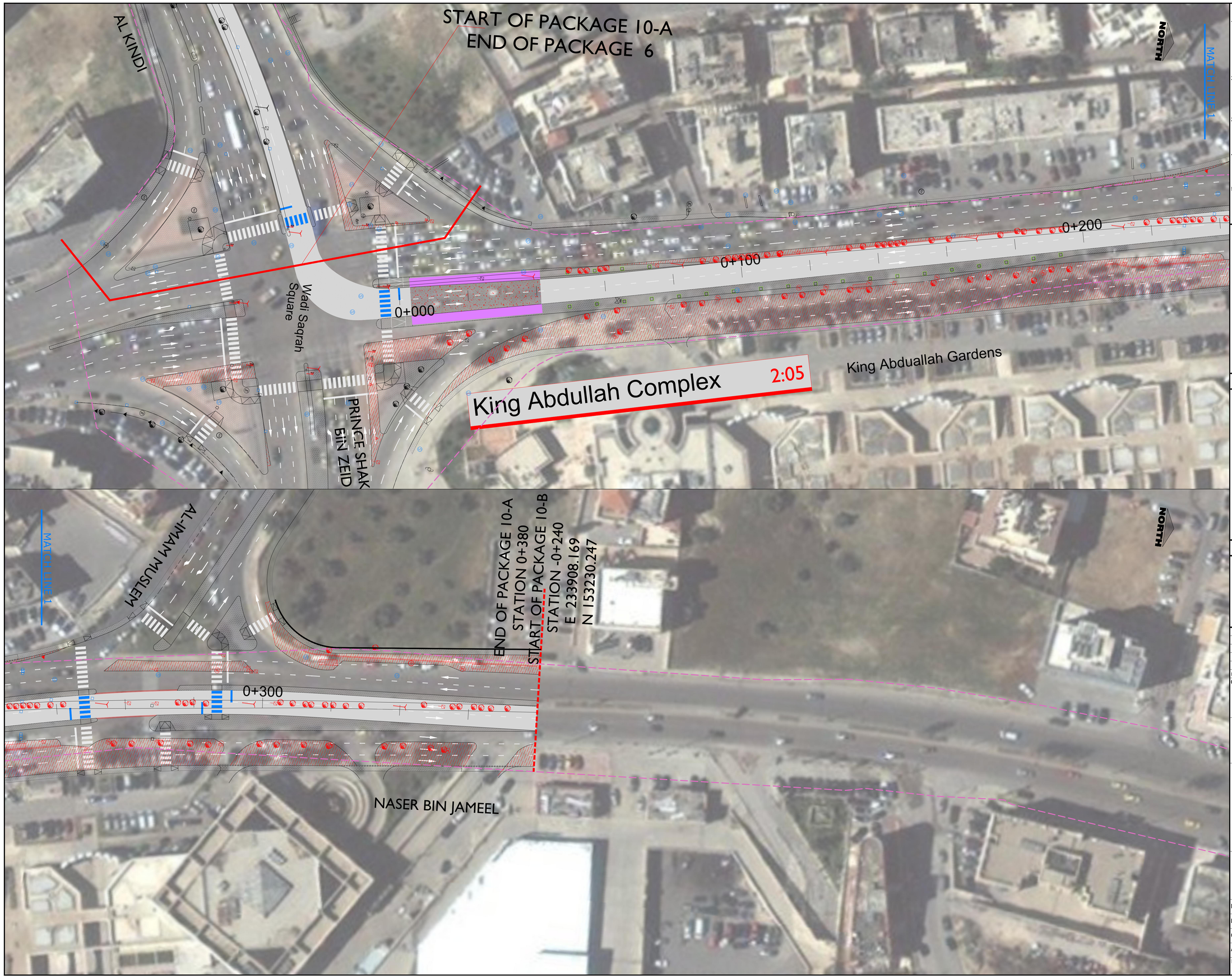
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

EXISTING SITE PLAN
(3 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-053	Rev.	00



NOTES :

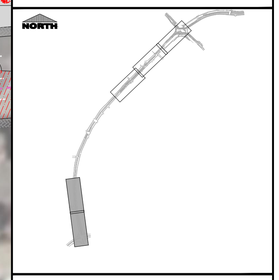
1-Contractor should take all precautions during excavation for the BRT running way route, not to damage any underground utilities, if any damage occurs, it will be the responsibility of the contractor to fix the damage at his own expense. Any underground utilities found should be properly protected, apparatus to be re-located must be coordinated with relevant authorities.

2- Wherever there is new construction, the contractor shall remove/demolish as needed, all existing above & below ground features such as bus shelter, medians, curbstones, manholes...etc.. in addition to any other features not removed by others, including pedestrian bridges.

3- Contractor should dismantle all traffic signs currently in the sidewalk and existing median, and reinstall in the proper locations and orientation in the new sidewalks & medians, to serve the regular traffic.

4- All above ground utilities / obstructions should be removed / demolished and transferred by contractor in coordination with the relevant authorities. any useful items such as manhole covers shall be handed over to the authority that owns it.

5-Where public street sidewalks are reconstructed, contractor shall protect any utilities found as directed by engineer. manhole tops shall be reconstructed as needed to be flush with the new sidewalk surfaces or new pavement level.



Legend for removed features

Medium Tension	Wall
Pole	Camera pole
Sign	Cabinet
Slab	Electric pole
Stall	Electric light pole
Sewer manhole	Fence
Rain manhole	Flood light
Stair	Hydrant
Telephone pole	Light pole
Telecom manhole	Manhole
Traffic sign	Bridge
Tree	Umbrella
	Right of way

Legend

- Road extension area where sidewalks,islands and pavement are removed and replaced by asphalt and new curbstone.
- Proposed BRT asphalt pavement
- Proposed interlocking tiles Sidewalk / Median
- Pedestrian Crossing

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

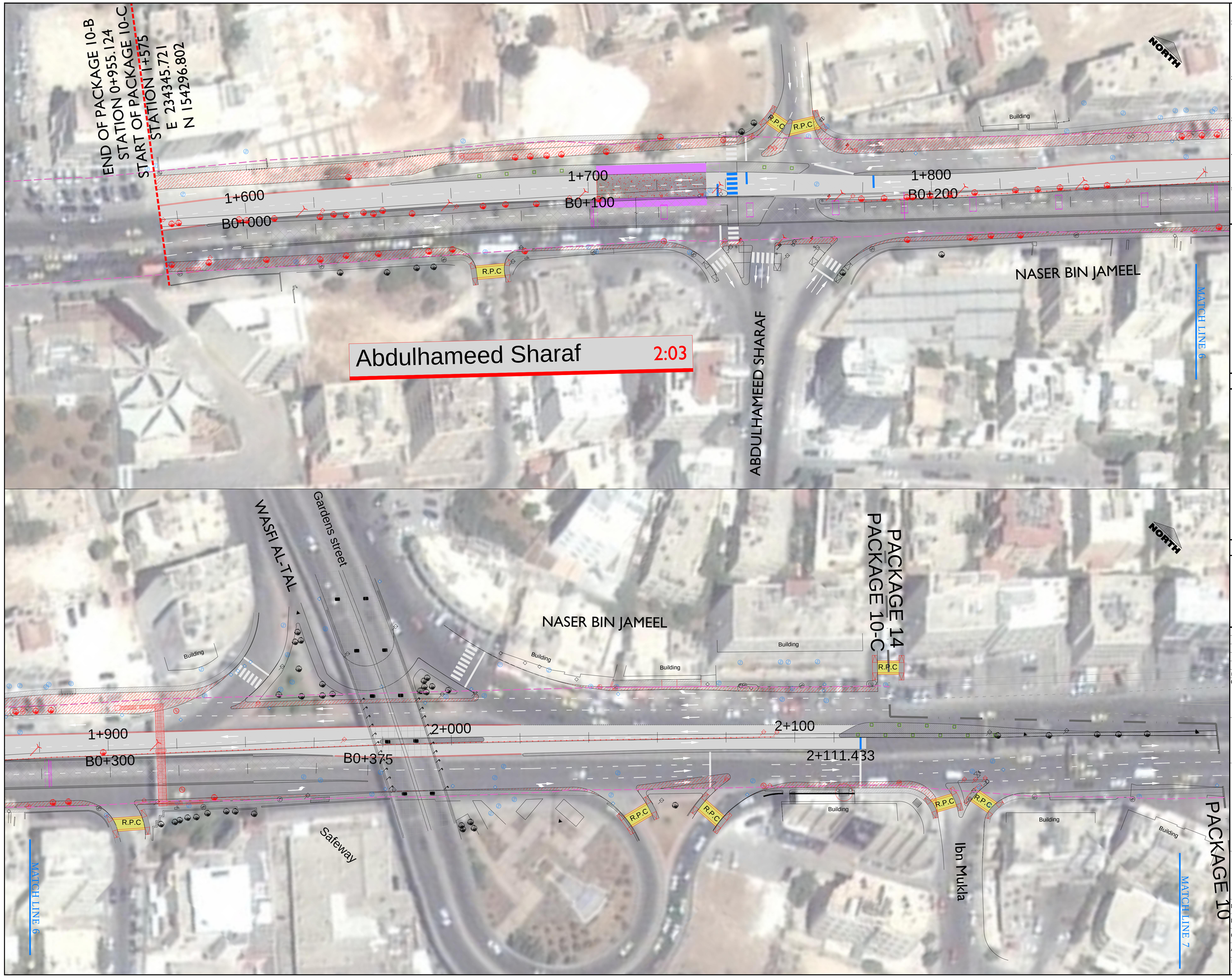
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

ROADS OBSTACLES PLAN
(1 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-055	Rev.	00



NOTES :

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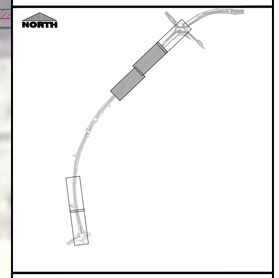

Legend for removed features

Medium Tension	Wall
Pole	Camera pole
Sign	Cabinet
Slab	Electric pole
Stall	Electric light pole
Sewer manhole	Fence
Rain manhole	Flood light
Stair	Hydrant
Telephone pole	Light pole
Telecom manhole	Manhole
Traffic sign	Bridge
Tree	Umbrella
	Right of way

Legend

- Road extension area where sidewalks,islands and pavement are removed and replaced by asphalt and new curbstone.
- Proposed BRT asphalt pavement
- Proposed interlocking tiles Sidewalk / Median
- Pedestrian Crossing

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

ROADS OBSTACLES PLAN
(2 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-056	Rev.	00

NOTES :

1-Contractor should take all precautions during excavation for the BRT running way route, not to damage any underground utilities, if any damage occurs, it will be the responsibility of the contractor to fix the damage at his own expense. Any underground utilities found should be properly protected, apparatus to be re-located must be coordinated with relevant authorities.

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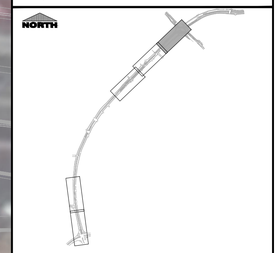


Legend for removed features

- Medium Tension
- Pole
- Sign
- Slab
- Stall
- Sewer manhole
- Rain manhole
- Stair
- Telephone pole
- Telecom manhole
- Traffic sign
- Tree
- Wall
- Camera pole
- Cabinet
- Electric pole
- Electric light pole
- Fence
- Flood light
- Hydrant
- Light pole
- Manhole
- Bridge
- Umbrella
- Right of way

Legend

- Road extension area where sidewalks,islands and pavement are removed and replaced by asphalt and new curbstone.
- Proposed BRT asphalt pavement
- Proposed interlocking tiles Sidewalk / Median
- Pedestrian Crossing

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C NASER BIN JAMEEL STREET

Consultants

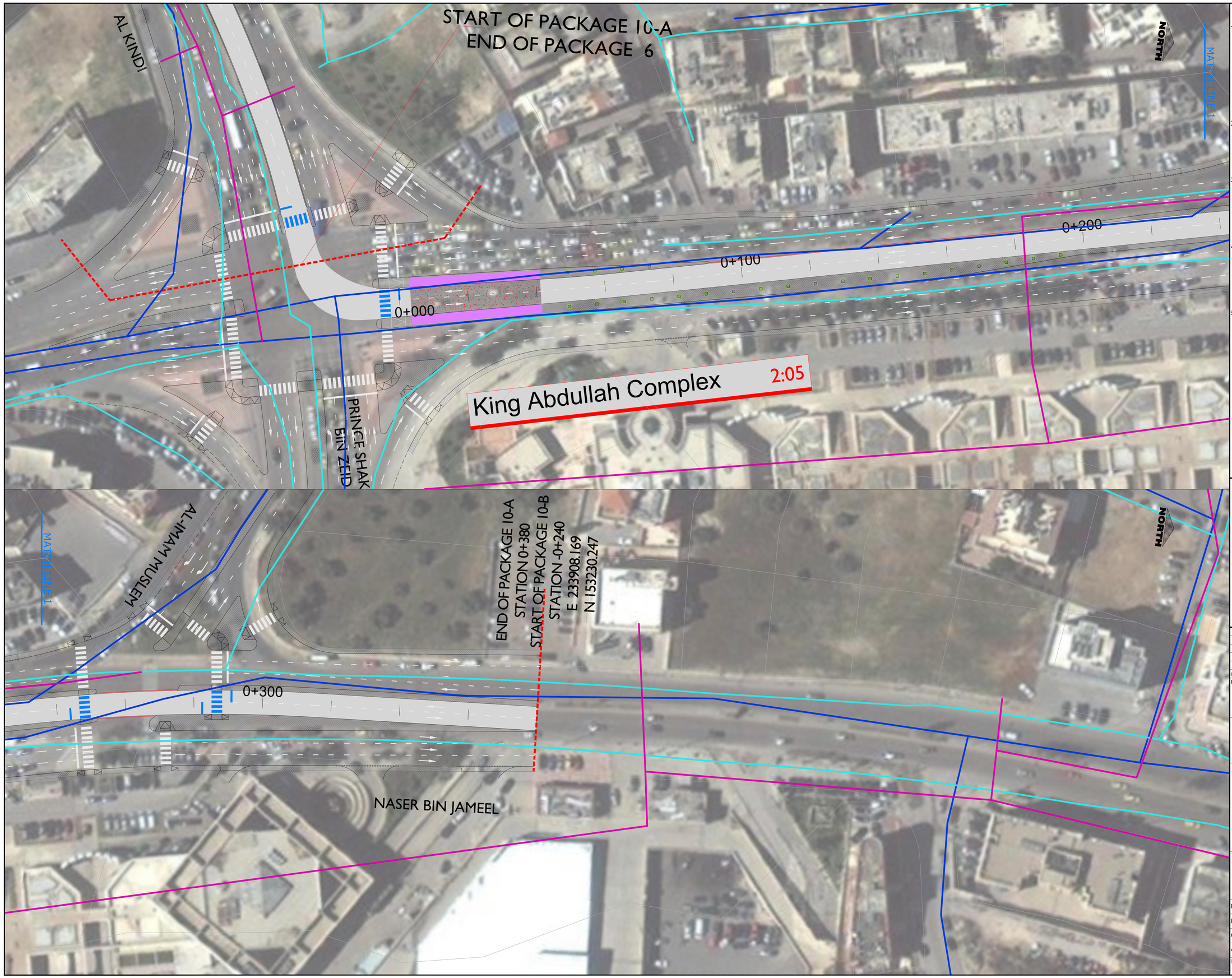
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

ROADS OBSTACLES PLAN (3 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-057	Rev.	00



NOTES :

1-Contractor should take all precautions during excavation for the brt running way route, not to damage any underground utilities. if any damage occurs, it will be the responsibility of the contractor to fix the damage at his own expense. any underground utilities found should be properly protected or transferred, in coordination with relevant authorities .

2-The Shown Utilities Represents existing utilities As Per Drawings Received From GAM And May Neither Show all the Utilities nor the Accurate Location Of The Utilities.

3- It is the contractors responsibility to obtain the exact position of the different utilities in order to avoid damage during construction, and protect as per details on dwg. r550, or transfer as the case may be.

4- The contractor shall be responsible to coordinate with all relevant authorities to arrange for the relocation/re-routing where needed of existing utilities crossing the BRT running way thru special conduits, manholes ....etc.

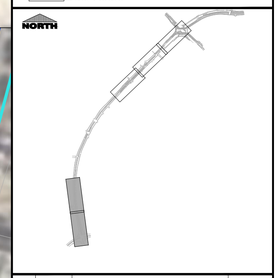
5-The Relocation works shall be implemented by the contractor or the owner of the utility. as coordinated. Other Protection works not clear at this stage that do not have separate line items in the BOQ, shall be covered by the relevant provisional sum in BOQ.

LEGEND

Proposed Interlocking Tile
Proposed BRT Asphalt Pavement
Proposed Concrete Pavement

Existing Underground Utilities

Existing Water Pipe
Existing Sewerage Pipe
Existing Drainage Pipe
Duct Route



Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

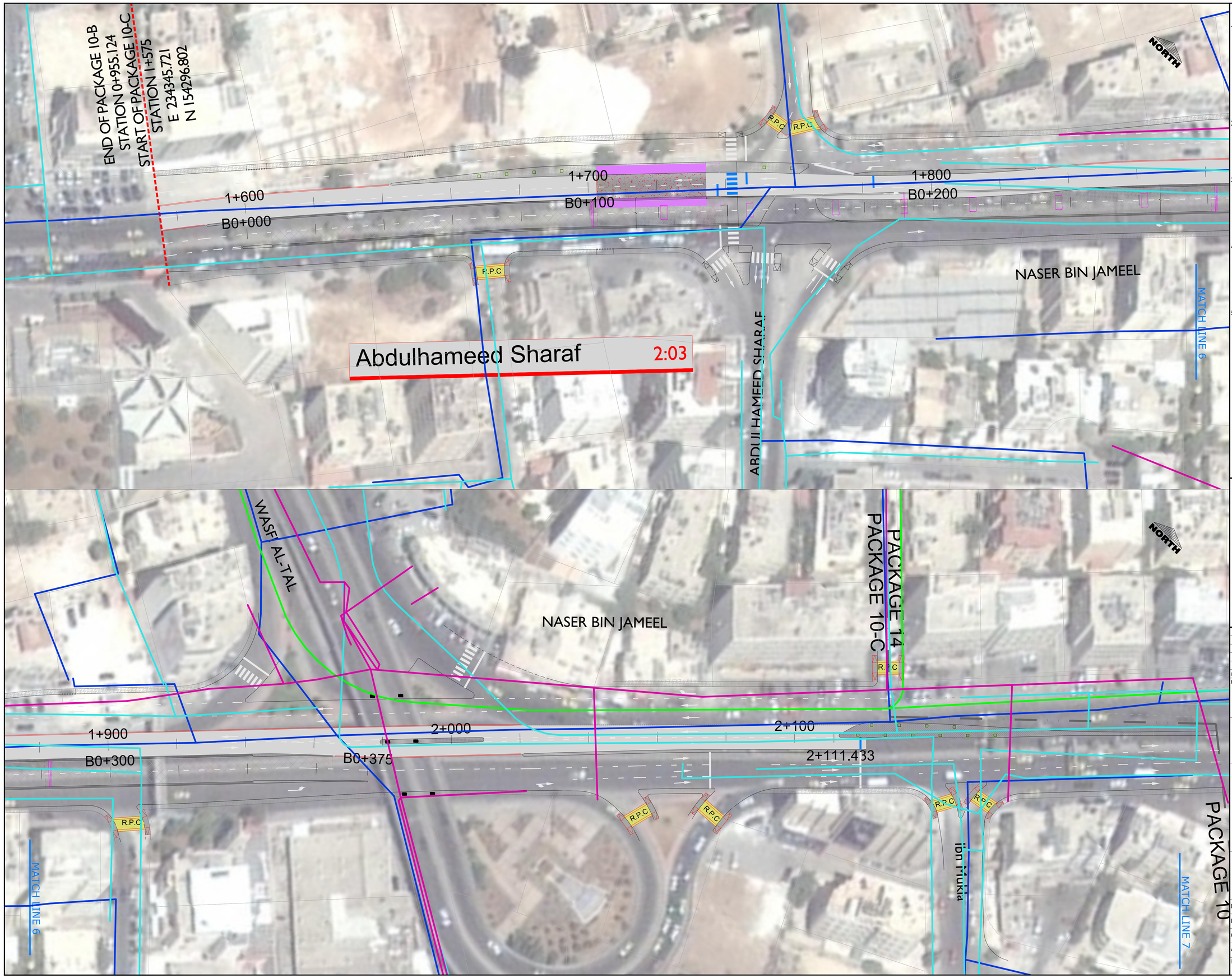
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

UNDERGROUND UTILITIES PLAN (1 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-059	Rev.	00



NOTES :

1-Contractor should take all precautions during excavation for the brt running way route, not to damage any underground utilities. if any damage occurs, it will be the responsibility of the contractor to fix the damage at his own expense. any underground utilities found should be properly protected or transferred, in coordination with relevant authorities .

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LEGEND

- Proposed Interlocking Tile
- Proposed BRT Asphalt Pavement
- Proposed Concrete Pavement

Existing Underground Utilities

- Existing Water Pipe
- Existing Sewerage Pipe
- Existing Drainage Pipe
- Duct Route

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

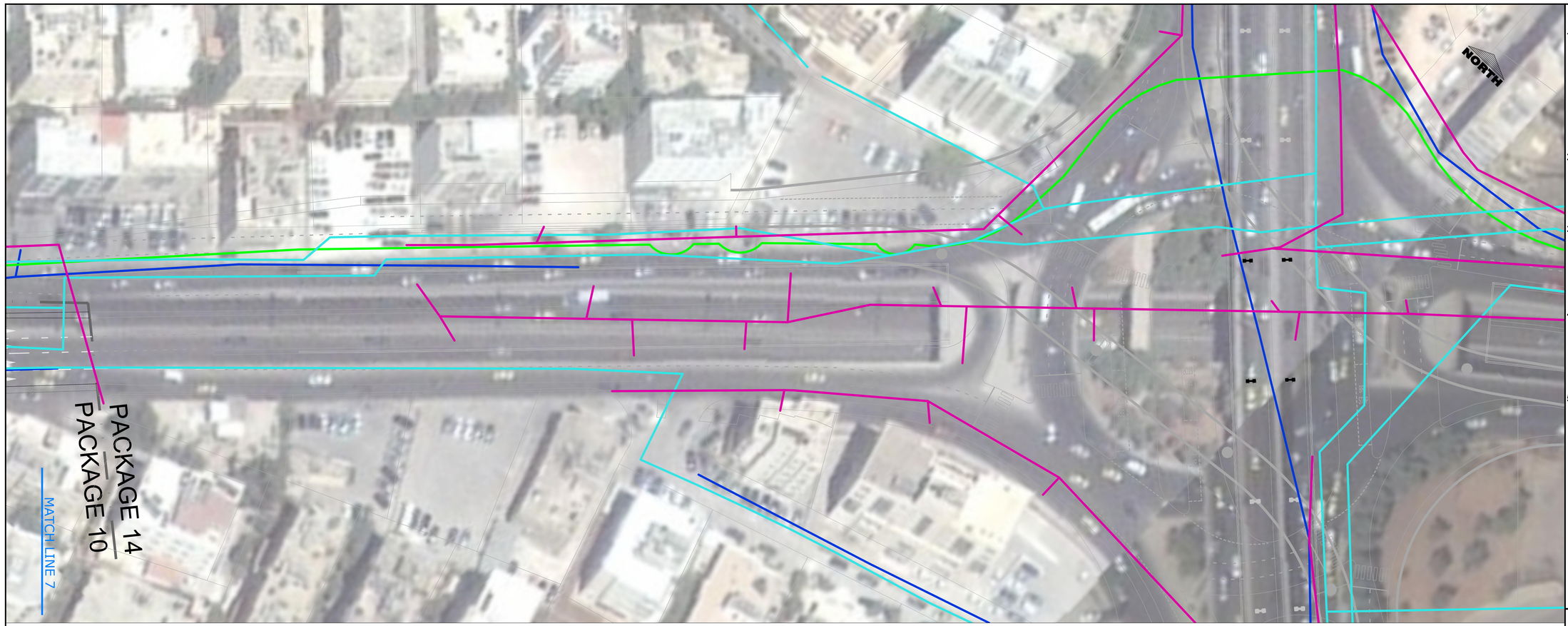
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

UNDERGROUND UTILITIES PLAN (2 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-060	Rev.	00



NOTES :

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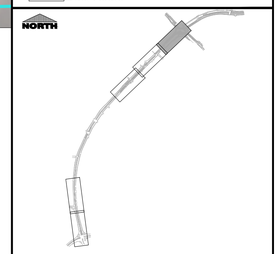
LEGEND

Proposed Interlocking Tile
Proposed BRT Asphalt Pavement
Proposed Concrete Pavement

Existing Underground Utilities

Existing Water Pipe
Existing Sewerage Pipe
Existing Drainage Pipe
Duct Route



Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

UNDERGROUND UTILITIES PLAN (3 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-061	Rev.	00

START PACKAGE 10-A	PI-01	PI-02	END PACKAGE 10-A
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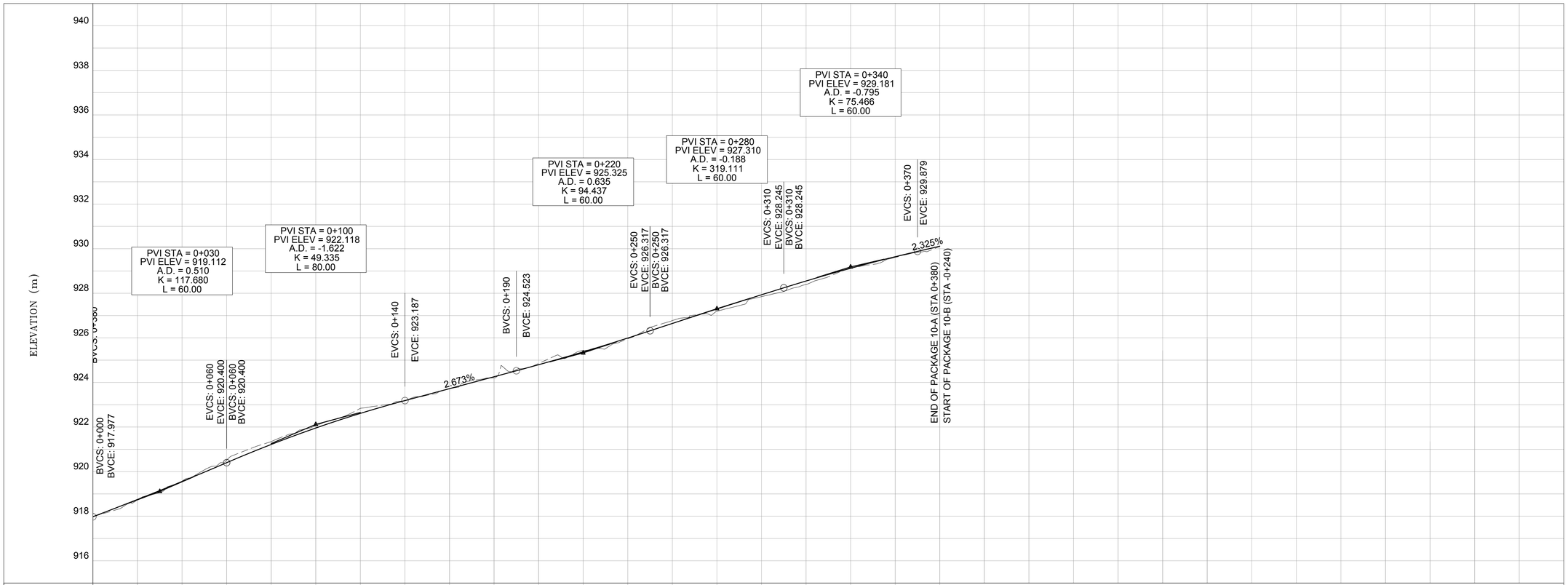
	L=41.031	L=81.188	
	T=20.518	T=40.683	
	SE= NC	SE= NC	



STATIONING	PROPOSED DESIGN LEVEL (P.D.L)	NATURAL GROUND LEVEL (N.G.L)
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0+040	919.558	919.576
0+080	920.400	920.513
0+120	921.218	921.347
0+160	921.956	922.054
0+200	922.612	922.837
0+240	923.187	923.186
0+280	923.721	923.713
0+320	924.256	924.205
0+360	924.796	924.852
	925.372	925.429
	925.992	925.955
	926.646	926.777
	927.295	927.190
	927.932	927.850
	928.551	928.394
	929.122	929.121
	929.640	929.606
	930.111	930.103

SUPERELEVATION
RIGHT EDGE
LEFT EDGE
NC
-2 %

NOTES :

Rev.	Date	Description	Checked

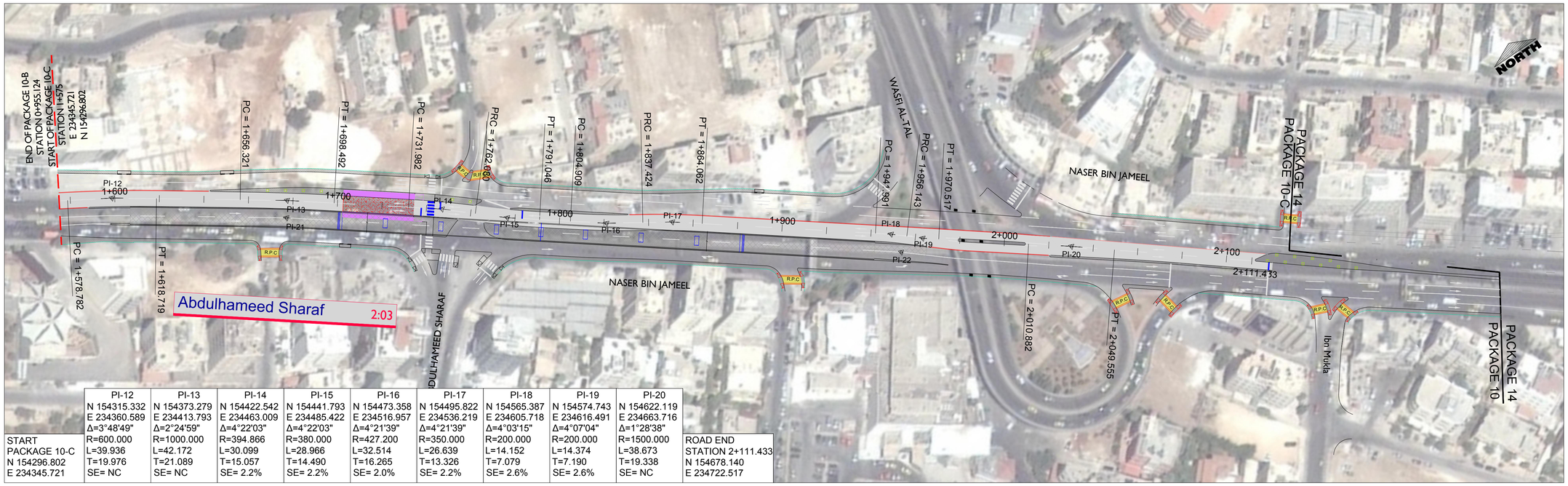
Client
Greater Amman Municipality

Project Name
BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants
steer davies gleave
CONSOLIDATED CONSULTANTS GROUP

Drawing Title
ROAD PLAN & PROFILE
(1 of 2)

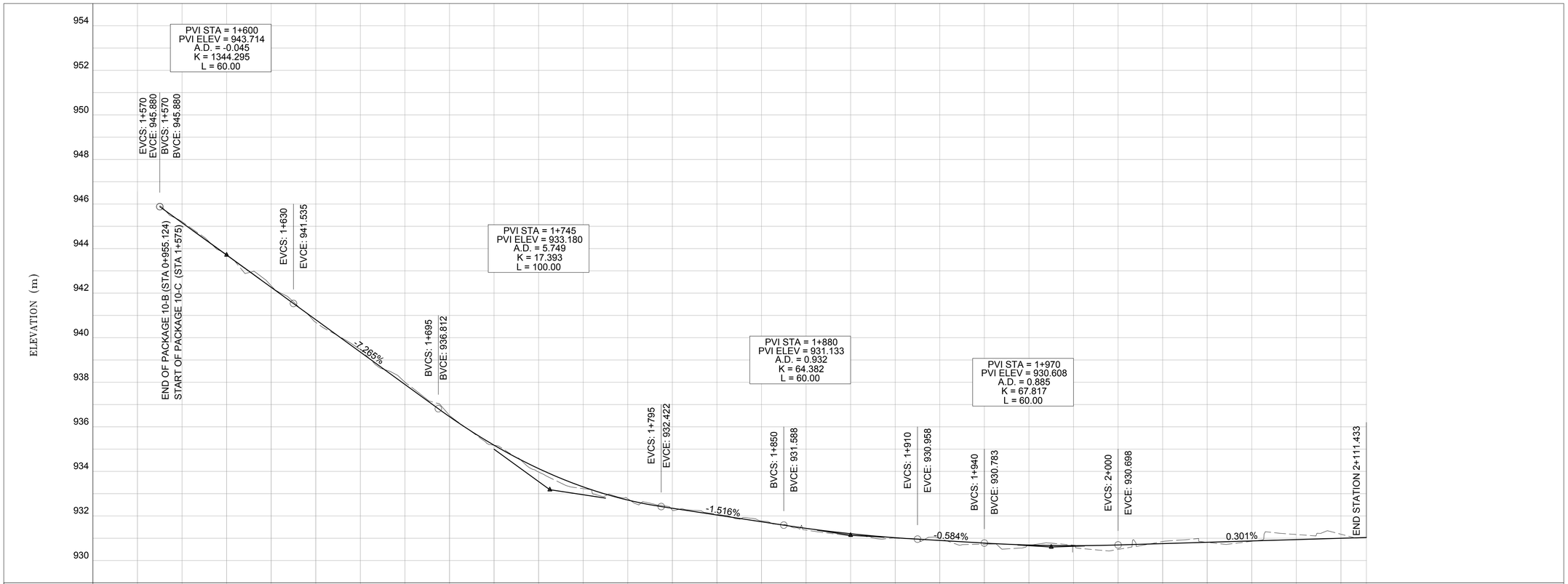
Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	H1:1000 V 1:100
Drawing No. :	R-063	Rev.	00



PI-12	PI-13	PI-14	PI-15	PI-16	PI-17	PI-18	PI-19	PI-20
N 154315.332	N 154373.279	N 154422.542	N 154441.793	N 154473.358	N 154495.822	N 154565.387	N 154574.743	N 154622.119
E 234360.589	E 234413.793	E 234463.009	E 234485.422	E 234516.957	E 234536.219	E 234605.718	E 234616.491	E 234663.716
Δ=3°48'49"	Δ=2°24'59"	Δ=4°22'03"	Δ=4°22'03"	Δ=4°21'39"	Δ=4°21'39"	Δ=4°03'15"	Δ=4°07'04"	Δ=1°28'38"
R=600.000	R=1000.000	R=394.866	R=380.000	R=427.200	R=350.000	R=200.000	R=200.000	R=1500.000
L=39.936	L=42.172	L=30.099	L=28.966	L=32.514	L=26.639	L=14.152	L=14.374	L=38.673
T=19.976	T=21.089	T=15.057	T=14.490	T=16.265	T=13.326	T=7.079	T=7.190	T=19.338
SE= NC	SE= NC	SE= 2.2%	SE= 2.2%	SE= 2.0%	SE= 2.2%	SE= 2.6%	SE= 2.6%	SE= NC

START
PACKAGE 10-C
N 154296.802
E 234345.721

ROAD END
STATION 2+111.433
N 154678.140
E 234722.517



STATIONING	PROPOSED DESIGN LEVEL (P.D.L)	NATURAL GROUND LEVEL (N.G.L)
1+560	945.158	945.207
1+600	943.711	943.723
1+640	942.261	942.333
1+680	940.808	940.687
1+720	939.355	939.472
1+760	937.902	938.005
1+800	936.456	936.513
1+840	935.176	935.174
	934.125	933.971
	933.304	933.227
	932.714	932.773
	932.346	932.259
	932.043	932.077
	931.740	931.779
1+920	931.444	931.367
	931.203	931.124
	931.203	931.124
	931.024	930.999
	930.900	930.989
1+960	930.783	930.733
	930.696	930.671
	930.668	930.692
2+000	930.668	930.692
	930.698	930.498
2+040	930.758	930.851
	930.819	930.816
2+080	930.879	930.863
	930.939	931.167
	930.999	931.180
	931.034	931.033

SUPERELEVATION
RIGHT EDGE
LEFT EDGE

NC		NC				NC																	
									+2.2%	+2.2%	+2.0%	+2.2%					+2.6 %						
									-2.2%	-2.2%	-2.0%	-2.2%					-2.6 %						
																				NC			

NOTES :

Rev.	Date	Description	Checked

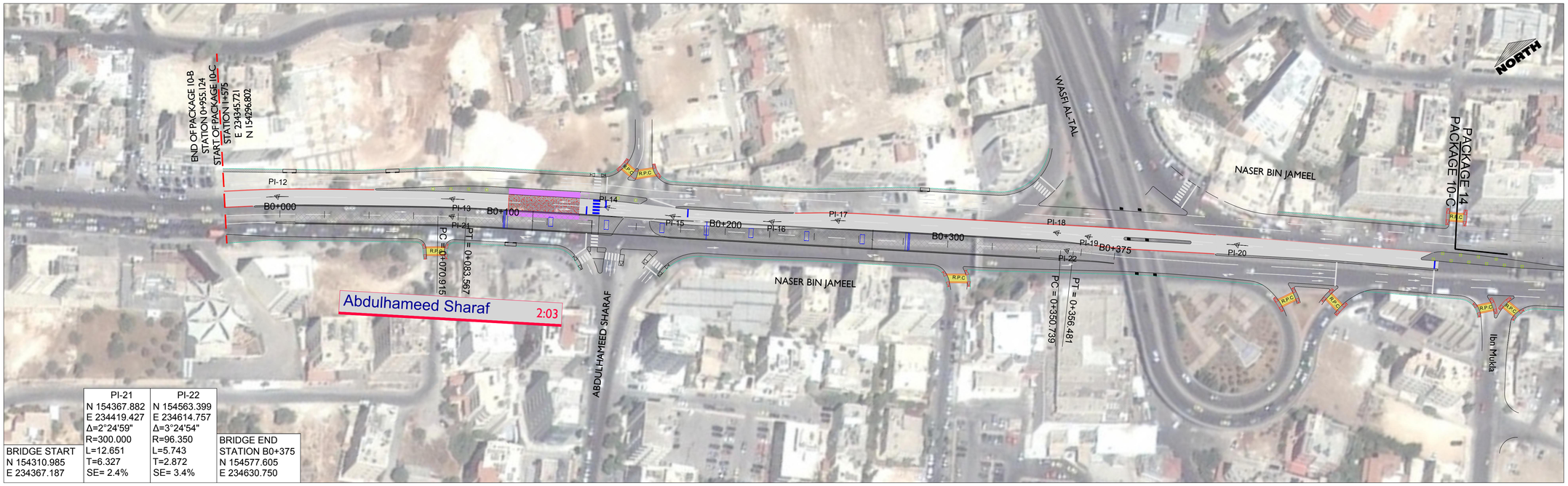
Client
Greater Amman Municipality

Project Name
BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants
steer davies gleave
CONSOLIDATED CONSULTANTS GROUP

Drawing Title
ROAD PLAN & PROFILE
(2 of 2)

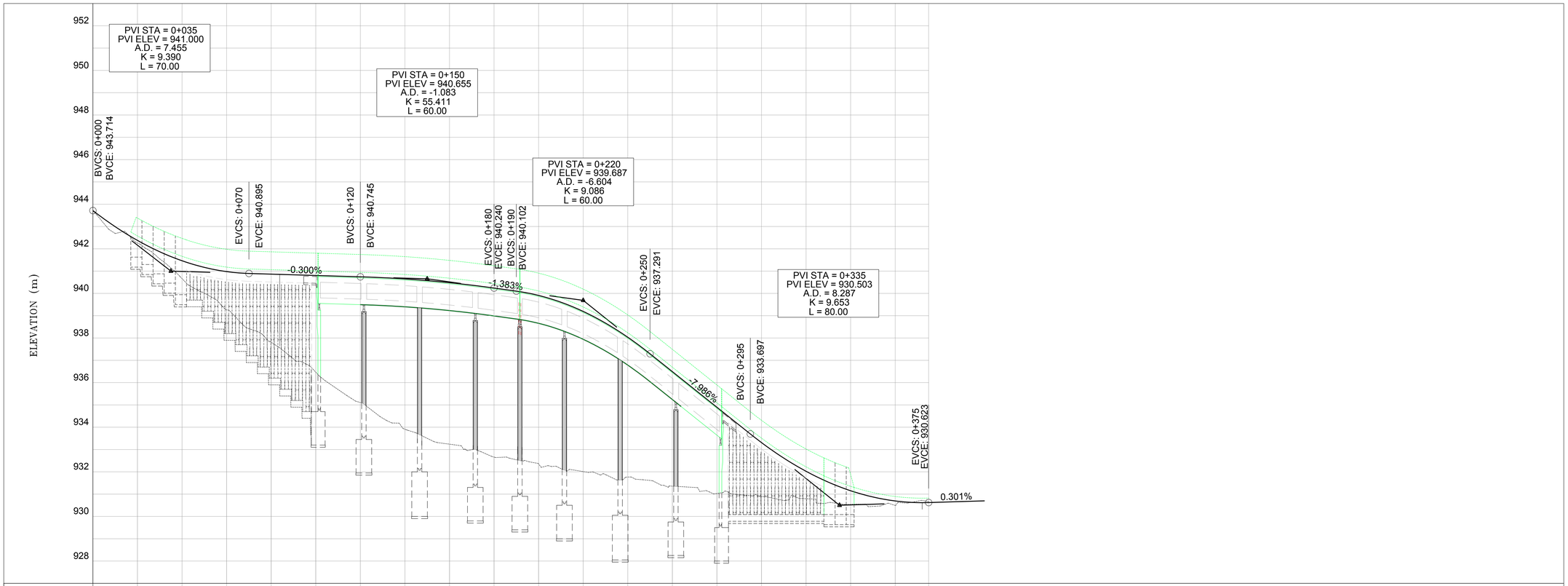
Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	H1:1000 V 1:100
Drawing No. :	R-064	Rev.	00



PI-21	PI-22
N 154367.882	N 154563.399
E 234419.427	E 234614.757
Δ=2°24'59"	Δ=3°24'54"
R=300.000	R=96.350
L=12.651	L=5.743
T=6.327	T=2.872
SE= 2.4%	SE= 3.4%

BRIDGE START
N 154310.985
E 234367.187

BRIDGE END
STATION B0+375
N 154577.605
E 234630.750



STATIONING	PROPOSED DESIGN LEVEL (P.D.L)	NATURAL GROUND LEVEL (N.G.L)
B0+000	943.714	943.694
	942.376	942.261
B0+040	941.464	940.664
	940.978	939.255
B0+080	940.865	937.805
	940.805	936.469
B0+120	940.745	935.109
	940.649	933.911
B0+160	940.481	933.240
	940.240	932.662
B0+200	939.909	932.354
	939.192	932.011
B0+240	938.035	931.765
	936.492	931.358
B0+280	934.895	931.031
	933.311	930.897
B0+320	932.024	930.793
	931.152	930.541
B0+360	930.694	930.493
	930.623	930.666

SUPERELEVATION

	B0+040	B0+080	B0+360
RIGHT EDGE	+2.0%	+2.4%	+3.4%
LEFT EDGE	-2.0%	-2.4%	-3.4%

NOTES :

Rev.	Date	Description	Checked
0			

Client
Greater Amman Municipality

Project Name
BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

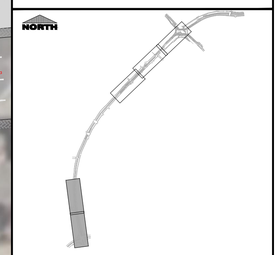
Consultants
steer davies gleave
CONSOLIDATED CONSULTANTS GROUP

Drawing Title
FLYPUVER BRIDGE
PLAN & PROFILE

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	H1:1000 V 1:100
Drawing No. :	R-065	Rev.	00

NOTES :

1. EXACT LOCATIONS AND HEIGHTS OF RETAINING WALLS SHALL BE DETERMINED ON SITE BY THE ENGINEER PRIOR TO CONSTRUCTION TO SUIT SITE CONDITIONS.



Legend

- Proposed New Wall
- Realign Wall (By the Owner if compensation is paid)

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

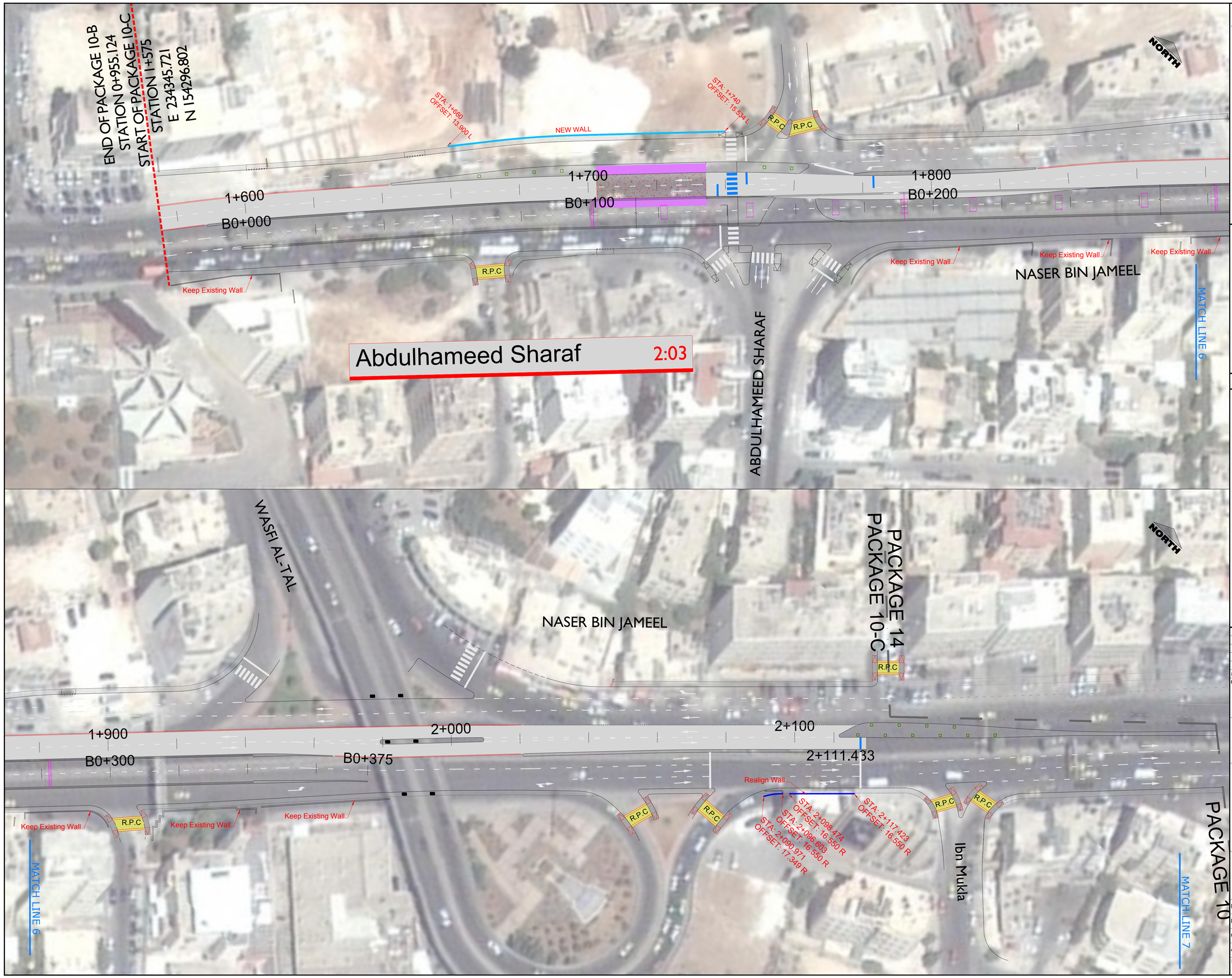
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

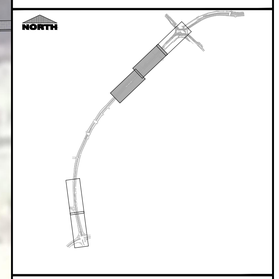
RETAINING WALLS
(1 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-068	Rev.	00



NOTES :

1. EXACT LOCATIONS AND HEIGHTS OF RETAINING WALLS SHALL BE DETERMINED ON SITE BY THE ENGINEER PRIOR TO CONSTRUCTION TO SUIT SITE CONDITIONS.



Legend

- Proposed New Wall
- Realign Wall (By the Owner if compensation is paid)

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

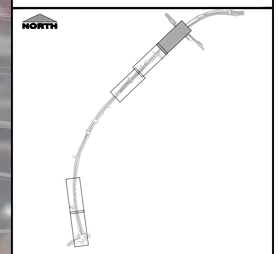
Drawing Title

RETAINING WALLS
(2 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-069	Rev.	00

NOTES :

1. EXACT LOCATIONS AND HEIGHTS OF RETAINING WALLS SHALL BE DETERMINED ON SITE BY THE ENGINEER PRIOR TO CONSTRUCTION TO SUIT SITE CONDITIONS.



Legend

- Proposed New Wall
- Realign Wall (By the Owner if compensation is paid)

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

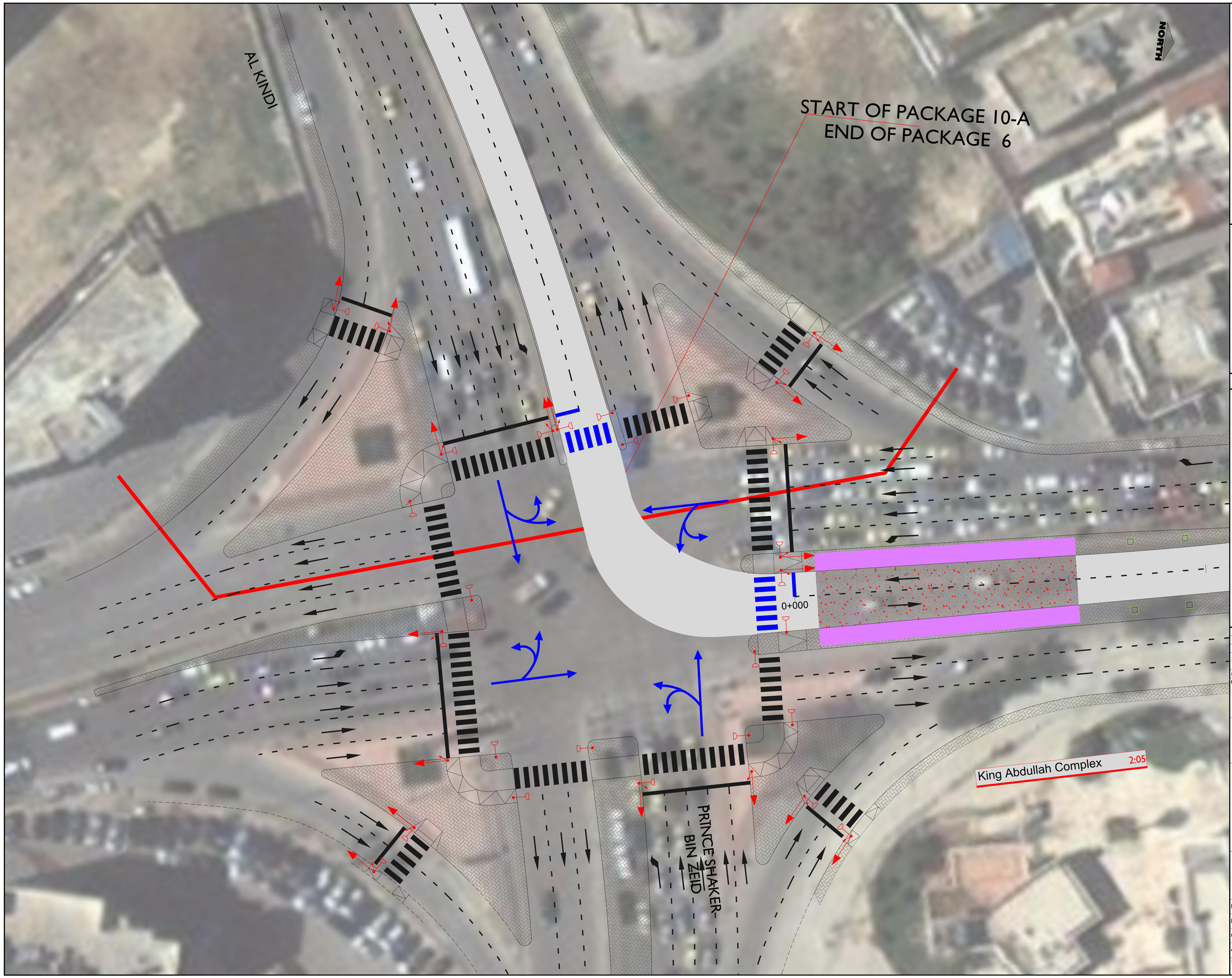
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

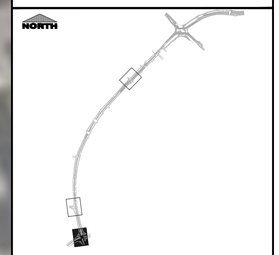
RETAINING WALLS
(3 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-070	Rev.	00



NOTES :

1. DISMANTLE OF EXISTING TRAFFIC SIGNALS BEFORE THE BEGINNING OF CONSTRUCTION WORKS, AND REINSTALL AFTER THE FINISHING OF CONSTRUCTION WORKS ACCORDING TO THE NEW LAYOUT INCLUDING REHABILITATION, COMMISSIONING, EXTRA HEADS AND POLES, REPEATERS, INDUCTIVE LOOPS, DUCTS AND ALL NECESSARY CIVIL AND ELECTRICAL WORKS AND EQUIPMENTS TO THE SATISFACTION OF THE ENGINEER, AND TO THE TRAFFIC SIGNAL PAY ITEM.
2. TRAFFIC SIGNAL OPERATION IS TO BE WITH PHASES AS SHOWN. WORKSHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR TO THE ENGINEER AND COMPETENT AUTHORITIES (MOGA /TRAFFIC DEPARTMENT AND OTHER) INCLUDING ARRANGEMENTS AND LAYOUT IN COMPLIANCE WITH TRAFFIC STUDY.
3. WORKSHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL OF ALL TRAFFIC SIGNAL COMPONENTS INCLUDING DUCTS.



Legend

Proposed Traffic Signals

Traffic Movements Allowed At Signals

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

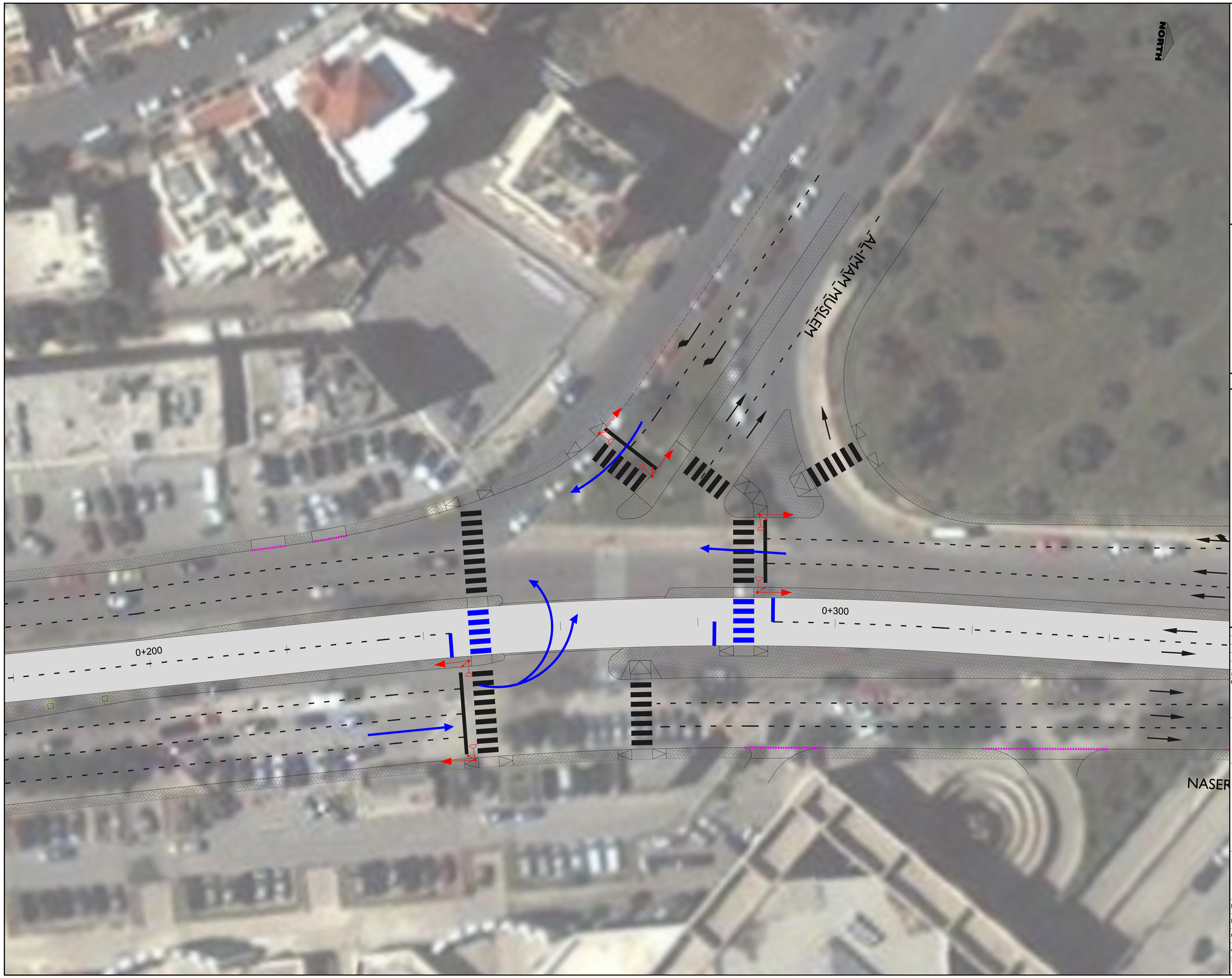
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

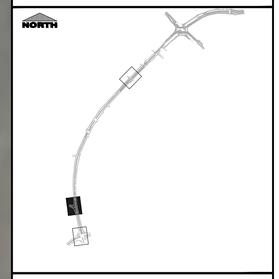
TRAFFIC SIGNAL No. 1

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:250
Drawing No. :	R-072	Rev.	00



NOTES :

1. DISMANTLE OF EXISTING TRAFFIC SIGNALS BEFORE THE BEGINNING OF CONSTRUCTION WORKS, AND REINSTALL AFTER THE FINISHING OF CONSTRUCTION WORKS ACCORDING TO THE NEW LAYOUT INCLUDING REHABILITATION, COMMISSIONING, EXTRA HEADS AND POLES, REPEATERS, INDUCTIVE LOOPS, DUCTS AND ALL NECESSARY CIVIL AND ELECTRICAL WORKS AND EQUIPMENTS TO THE SATISFACTION OF THE ENGINEER, AND TO THE TRAFFIC SIGNAL PAY ITEM.
2. TRAFFIC SIGNAL OPERATION IS TO BE WITH PHASES AS SHOWN. WORKSHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR TO THE ENGINEER AND COMPETENT AUTHORITIES (MOGA /TRAFFIC DEPARTMENT AND OTHER) INCLUDING ARRANGEMENTS AND LAYOUT IN COMPLIANCE WITH TRAFFIC STUDY.
3. WORKSHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL OF ALL TRAFFIC SIGNAL COMPONENTS INCLUDING DUCTS.



Legend

Proposed Traffic Signals

Traffic Movements Allowed At Signals

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

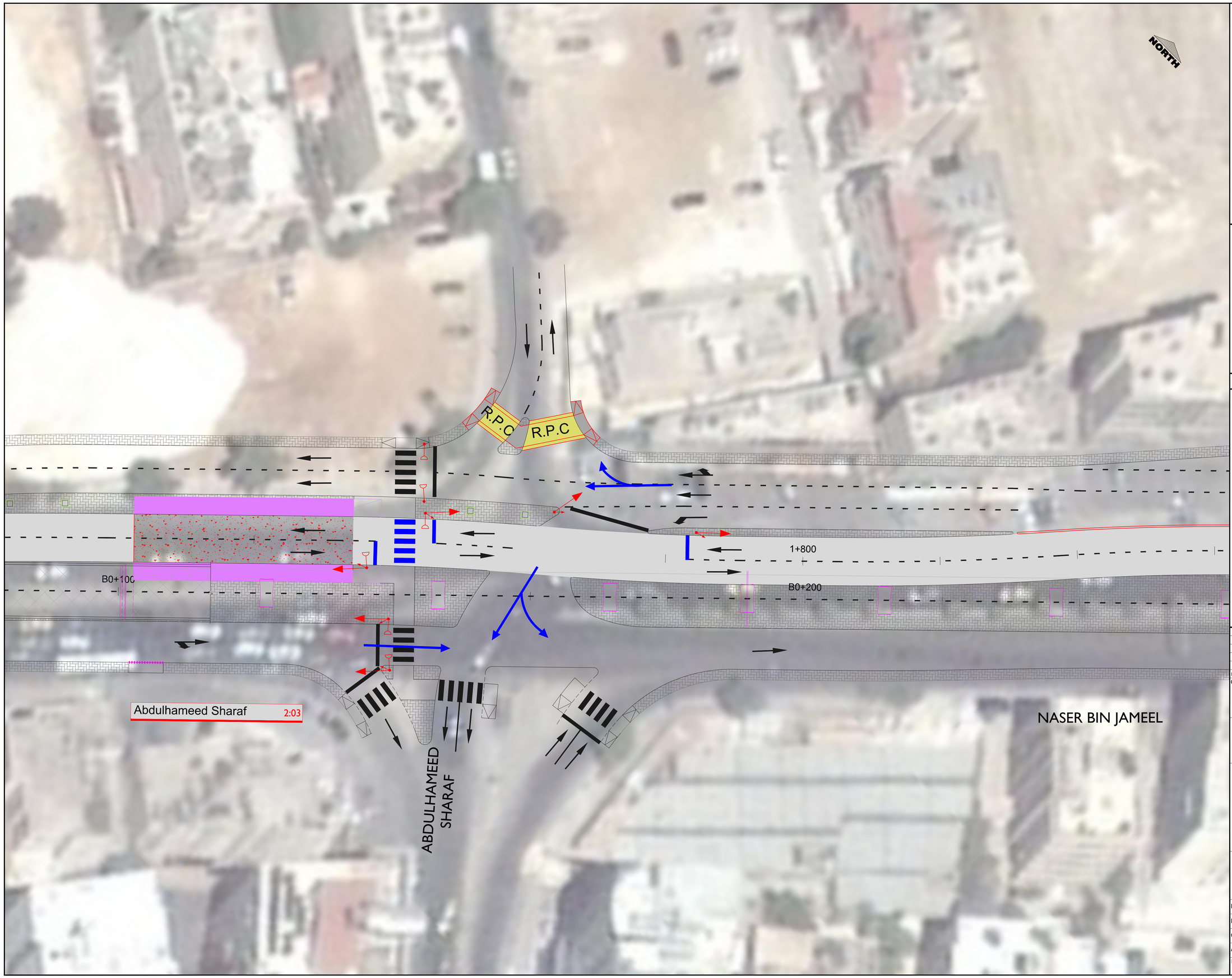
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

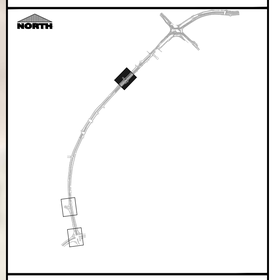
TRAFFIC SIGNAL No. 2

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:250
Drawing No. :	R-073	Rev.	00



NOTES :

1. DISMANTLE OF EXISTING TRAFFIC SIGNALS BEFORE THE BEGINNING OF CONSTRUCTION WORKS, AND REINSTALL AFTER THE FINISHING OF CONSTRUCTION WORKS ACCORDING TO THE NEW LAYOUT INCLUDING REHABILITATION, COMMISSIONING, EXTRA HEADS AND POLES, REPEATERS, INDUCTIVE LOOPS, DUCTS AND ALL NECESSARY CIVIL AND ELECTRICAL WORKS AND EQUIPMENTS TO THE SATISFACTION OF THE ENGINEER, AND TO THE TRAFFIC SIGNAL PAY ITEM.
2. TRAFFIC SIGNAL OPERATION IS TO BE WITH PHASES AS SHOWN. WORKSHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR TO THE ENGINEER AND COMPETENT AUTHORITIES (MOGA /TRAFFIC DEPARTMENT AND OTHER) INCLUDING ARRANGEMENTS AND LAYOUT IN COMPLIANCE WITH TRAFFIC STUDY.
3. WORKSHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL OF ALL TRAFFIC SIGNAL COMPONENTS INCLUDING DUCTS.



Legend

Proposed Traffic Signals

Traffic Movements Allowed At Signals

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

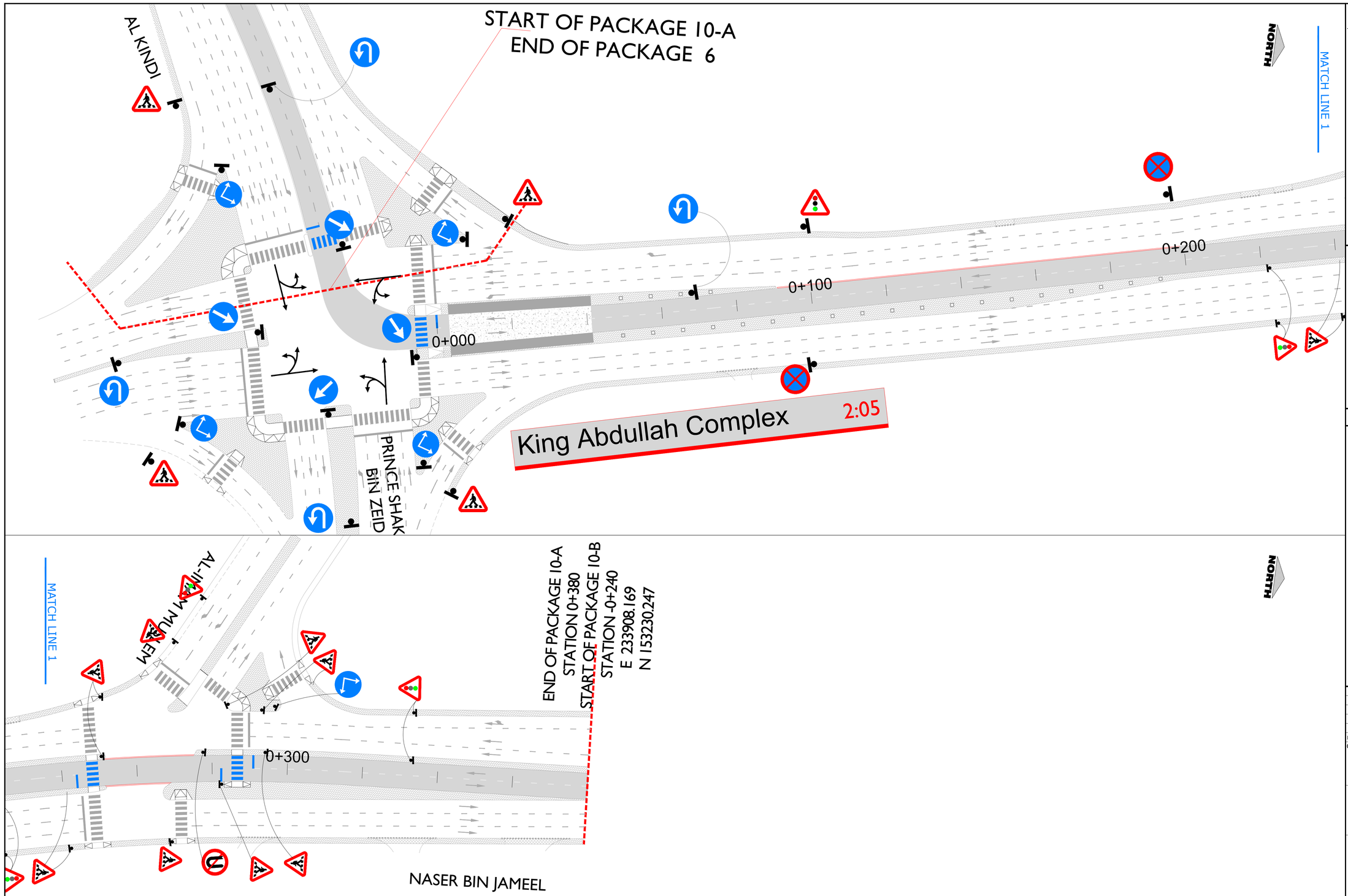
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

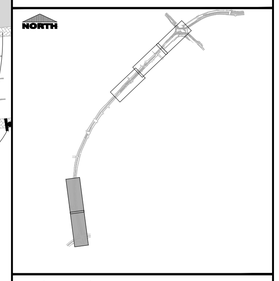
TRAFFIC SIGNAL No. 5

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:250
Drawing No. :	R-074	Rev.	00



NOTES :

1. DUCTS EXACT LOCATIONS AND HEIGHTS SHALL BE DETERMINED ON SITE BY THE ENGINEER PRIOR TO CONSTRUCTION TO SUIT SITE CONDITIONS.



Legend

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

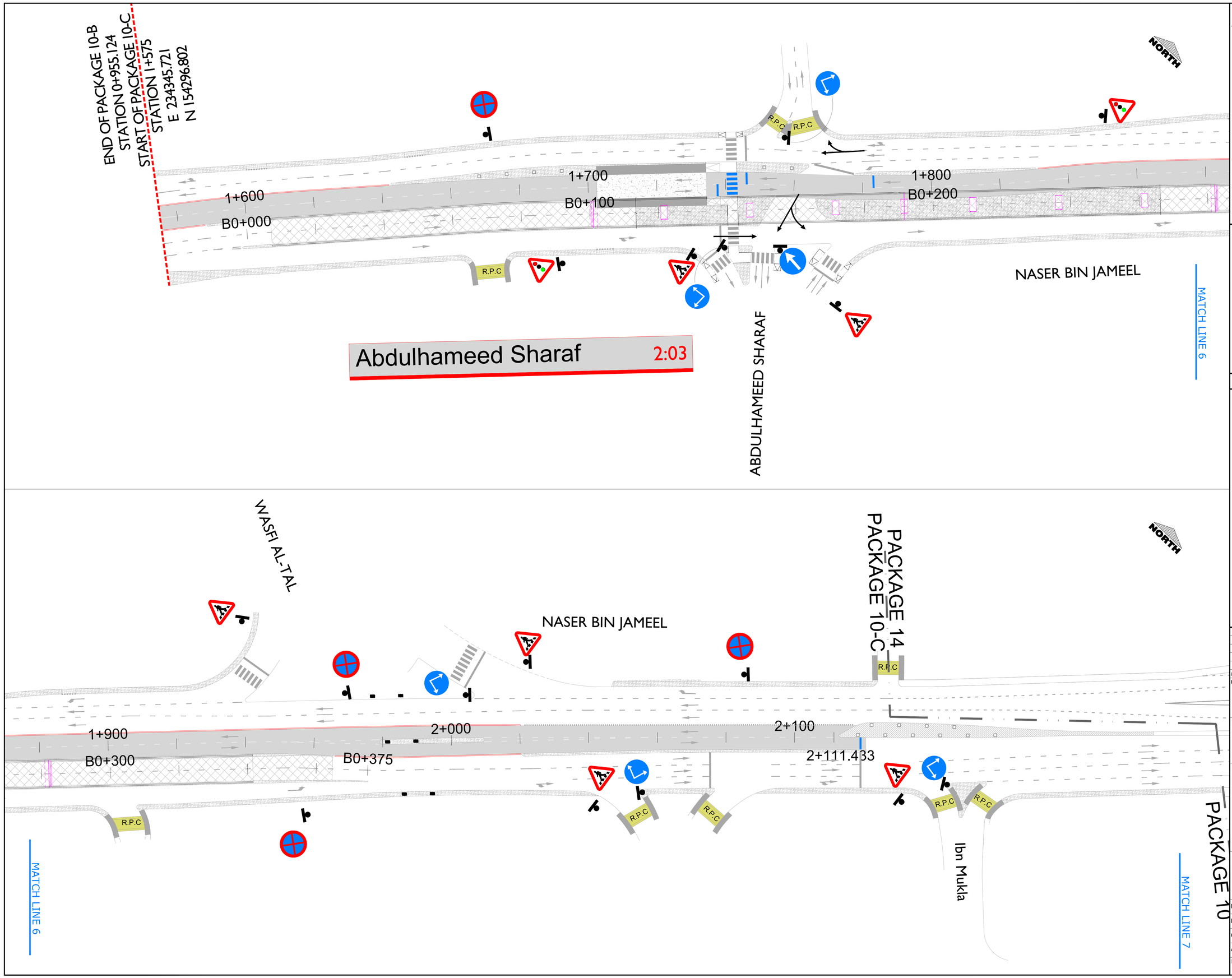
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

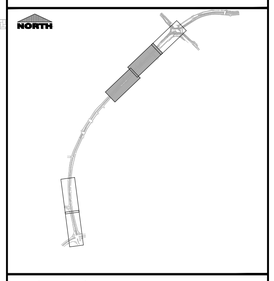
TRAFFIC SIGNS PLAN
(1 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-080	Rev.	00



NOTES :

1. DUCTS EXACT LOCATIONS AND HEIGHTS SHALL BE DETERMINED ON SITE BY THE ENGINEER PRIOR TO CONSTRUCTION TO SUIT SITE CONDITIONS.



Legend

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

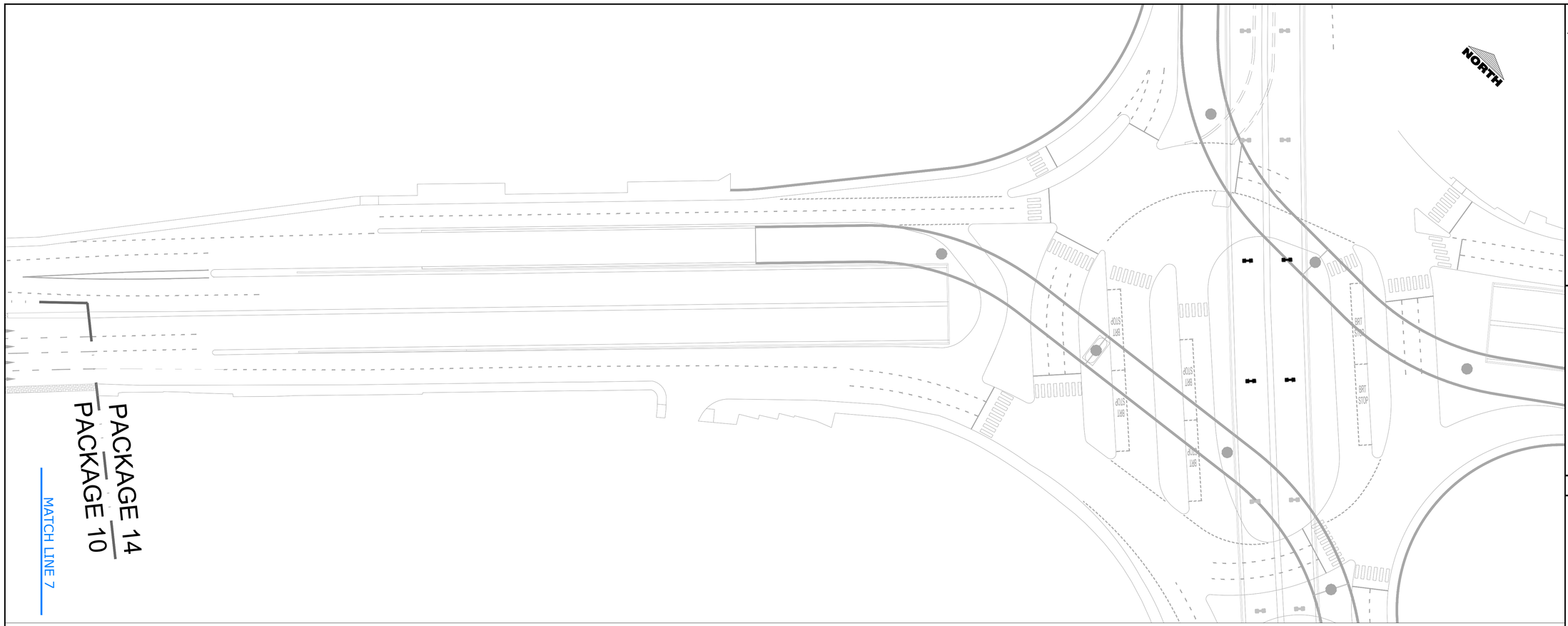
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

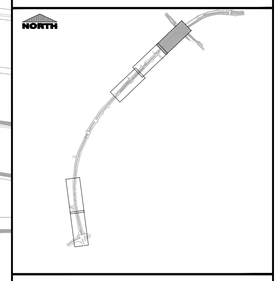
TRAFFIC SIGNS PLAN
(2 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-081	Rev.	00



NOTES :

1. DUCTS EXACT LOCATIONS AND HEIGHTS SHALL BE DETERMINED ON SITE BY THE ENGINEER PRIOR TO CONSTRUCTION TO SUIT SITE CONDITIONS.



Legend

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C NASER BIN JAMEEL STREET

Consultants

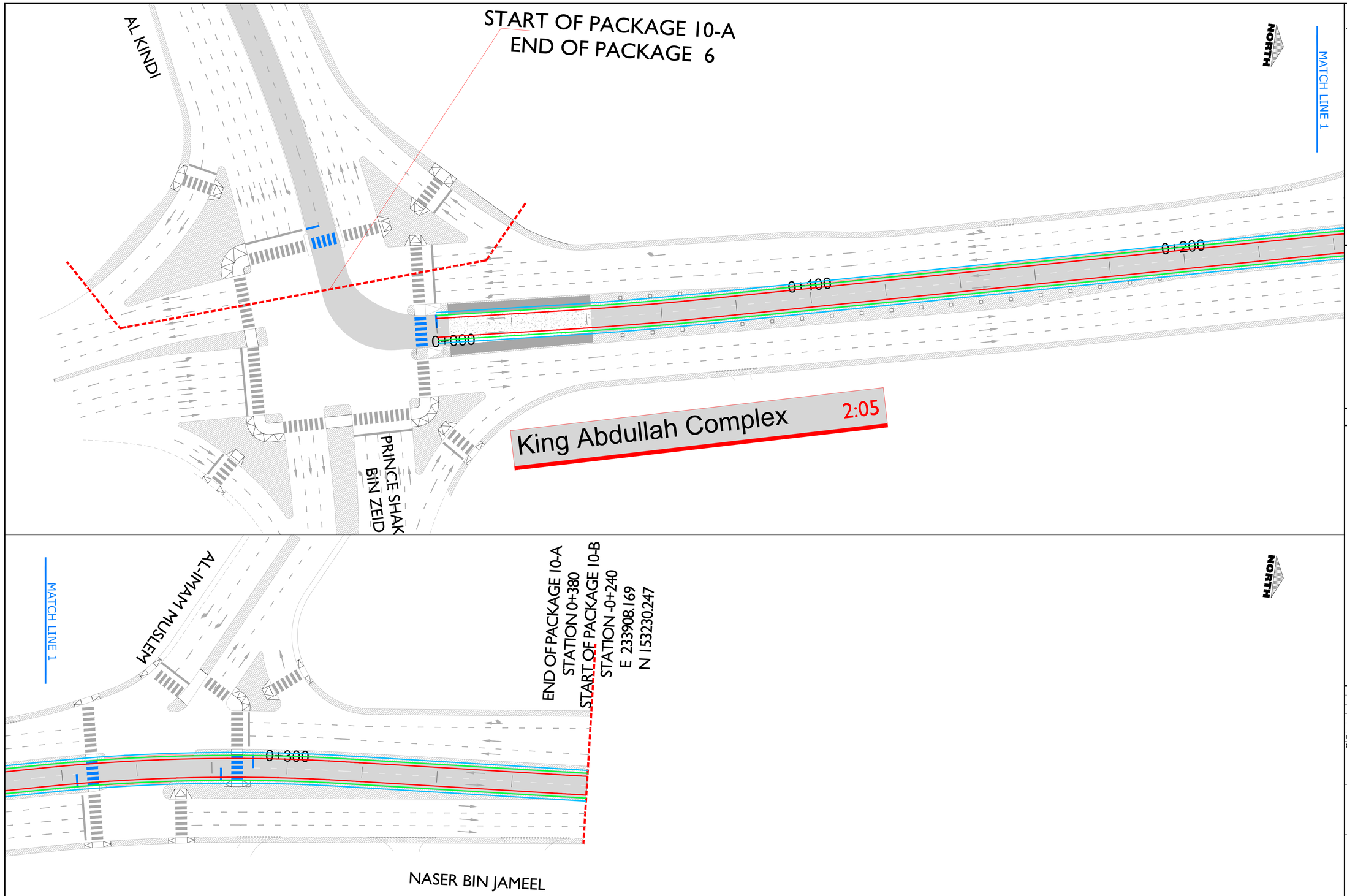
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

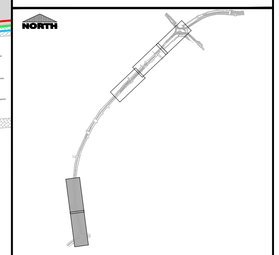
TRAFFIC SIGNS PLAN (3 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-082	Rev.	00



NOTES :

1. DUCTS EXACT LOCATIONS AND HEIGHTS SHALL BE DETERMINED ON SITE BY THE ENGINEER PRIOR TO CONSTRUCTION TO SUIT SITE CONDITIONS.



Legend

Sleeves along BRT running way

- 6-inch HD UPVC empty sleeve for future communication installations (TEL)
- 4-inch HD UPVC empty sleeve for future power installations (LV)
- 3-inch HD UPVC conduit for street lighting cable (RL)

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

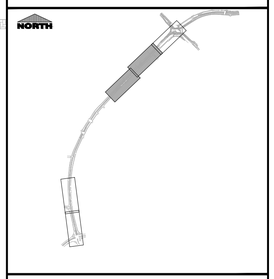
Drawing Title

BRT DUCTS ROUTE
(1 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-100	Rev.	00

NOTES :

1. DUCTS EXACT LOCATIONS AND HEIGHTS SHALL BE DETERMINED ON SITE BY THE ENGINEER PRIOR TO CONSTRUCTION TO SUIT SITE CONDITIONS.



Legend

Sleeves along BRT running way

- 6-inch HD UPVC empty sleeve for future communication installations (TEL)
- 4-inch HD UPVC empty sleeve for future power installations (LV)
- 3-inch HD UPVC conduit for street lighting cable (RL)

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

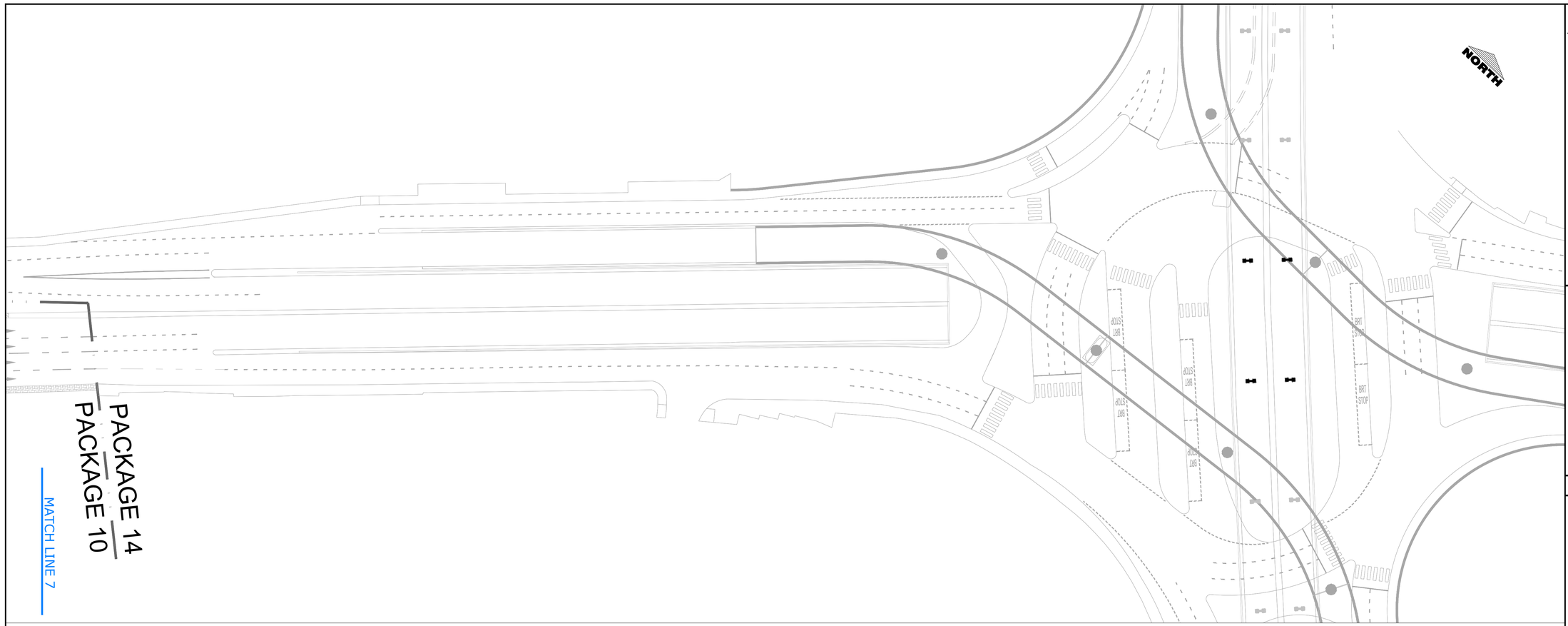
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

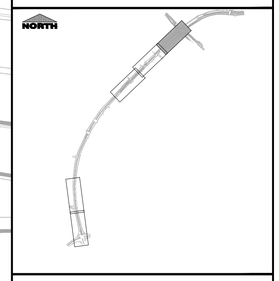
BRT DUCTS ROUTE
(2 of 3)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-101	Rev.	00



NOTES :

1. DUCTS EXACT LOCATIONS AND HEIGHTS SHALL BE DETERMINED ON SITE BY THE ENGINEER PRIOR TO CONSTRUCTION TO SUIT SITE CONDITIONS.



Legend

Sleeves along BRT running way

- 6-inch HD UPVC empty sleeve for future communication installations (TEL)
- 4-inch HD UPVC empty sleeve for future power installations (LV)
- 3-inch HD UPVC conduit for street lighting cable (RL)

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

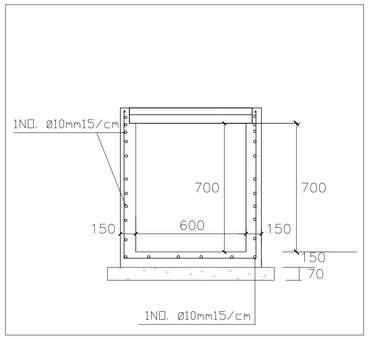
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

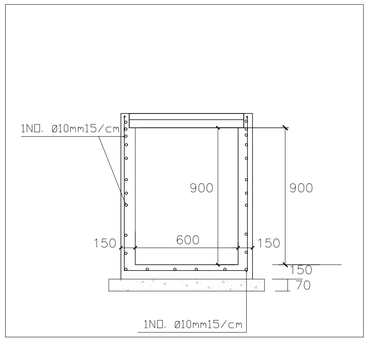
Drawing Title

BRT DUCTS ROUTE
(3 of 3)

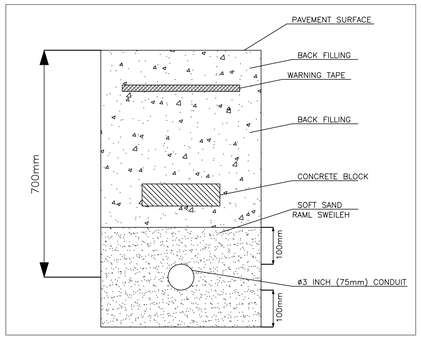
Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:500
Drawing No. :	R-102	Rev.	00



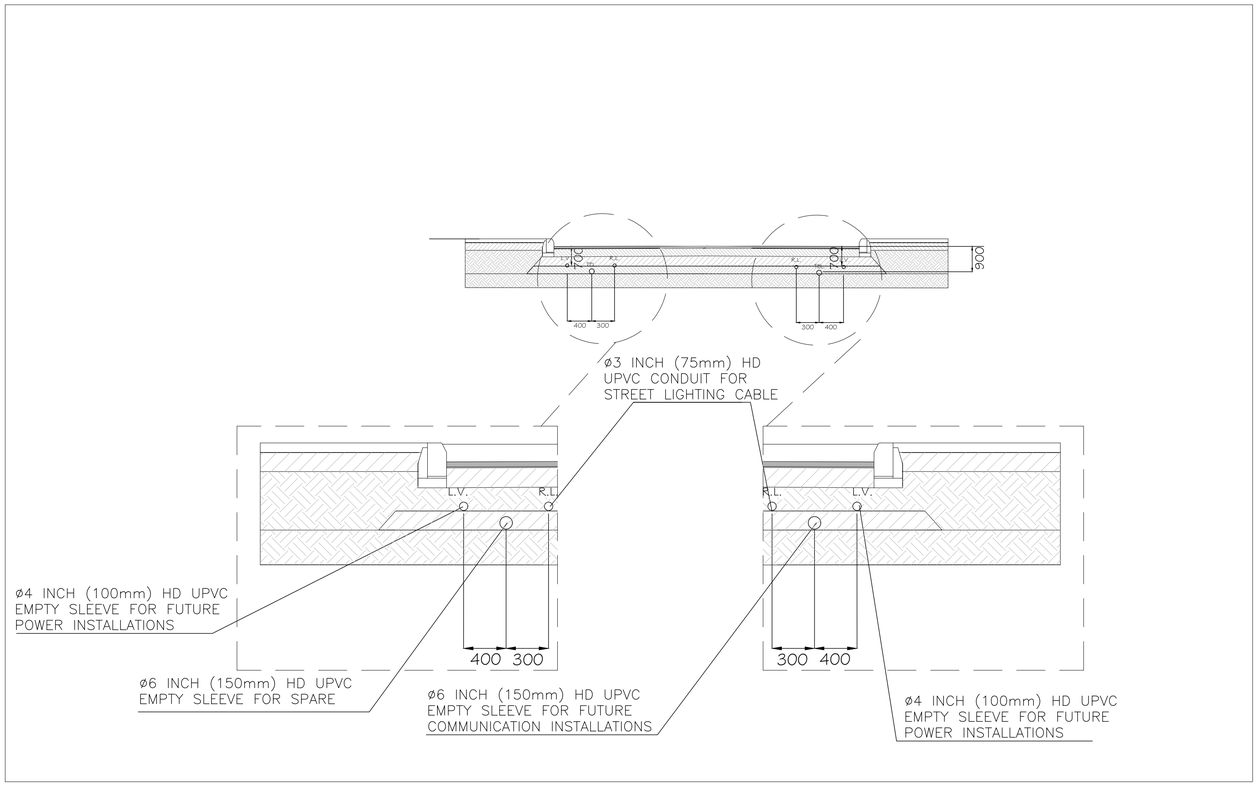
DETAIL A:
TYPICAL TELECOMMUNICATION
MANHOLE DETAIL



DETAIL B:
TYPICAL POWER MANHOLE DETAIL



DETAIL C:
LIGHTING CABLES TRENCH
INSTALLATION DETAIL



CROSS SECTION [A-A] FOR LIGHTING, POWER AND
COMMUNICATION INSTALLATION SLEEVES

NOTES :

1- Concrete manholes for power and communication are to be provided at each bus stop and every 50 meters

2- The manholes are provided for future usage.

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM
IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

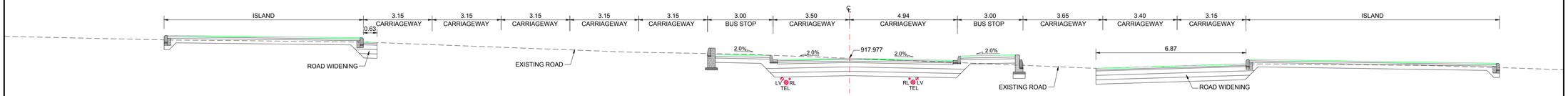
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

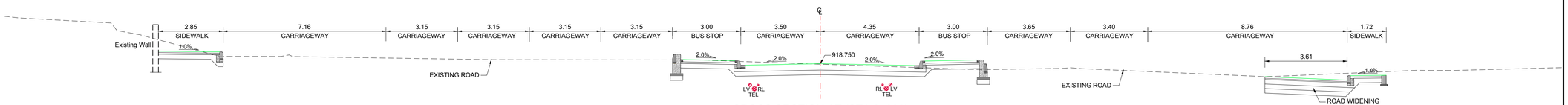
Drawing Title

BRT DUCTS DETAILS

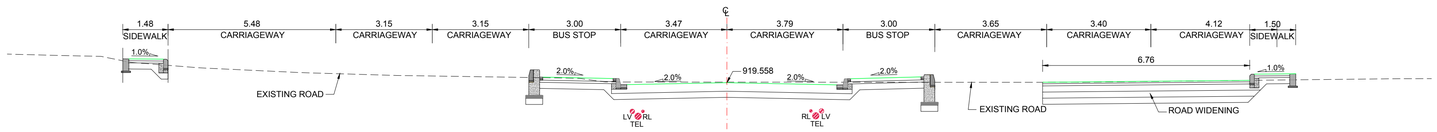
Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	
Drawing No. :	R-104	Rev.	00



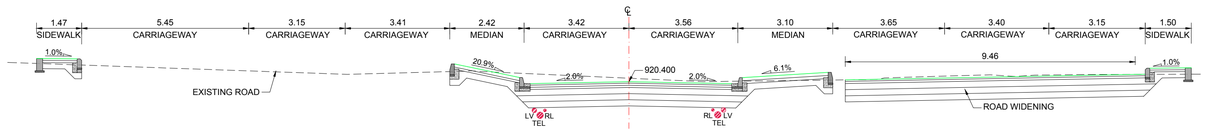
CROSS SECTION AT (STA.0+000)



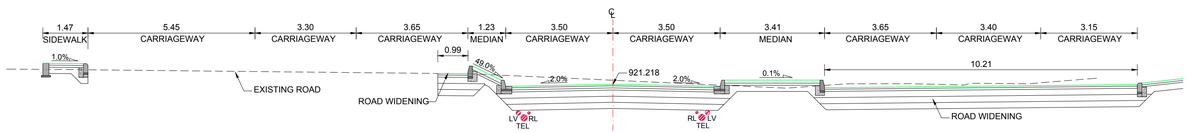
CROSS SECTION AT (STA.0+020)



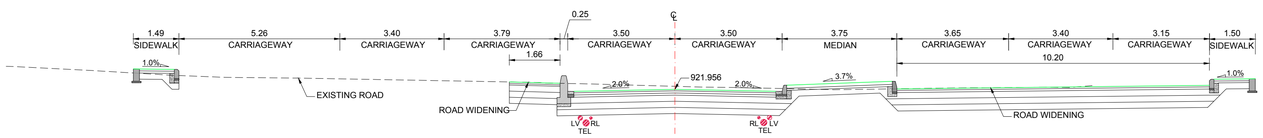
CROSS SECTION AT (STA.0+040)



CROSS SECTION AT (STA.0+060)



CROSS SECTION AT (STA.0+080)



CROSS SECTION AT (STA.0+100)

NOTES :

Legend

Sleeves along BRT running way

- TEL — 6-inch HD UPVC empty sleeve for future communication installations
- LV — 4-inch HD UPVC empty sleeve for future power installations
- RL — 3-inch HD UPVC conduit for street lighting cable

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

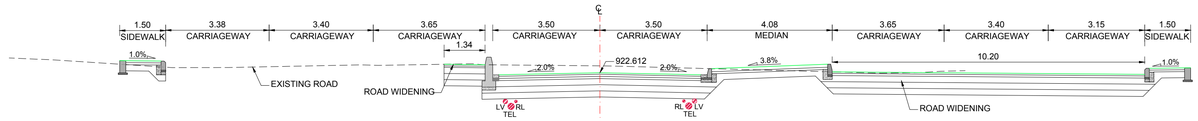
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

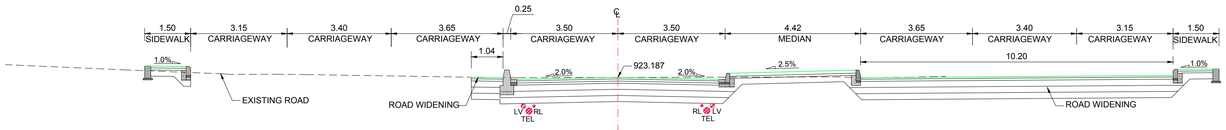
Drawing Title

ROAD CROSS SECTIONS
(1 OF 10)

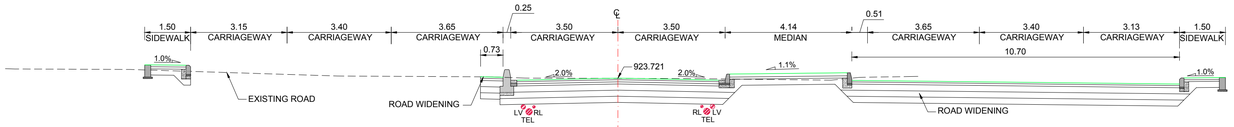
Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:100
Drawing No. :	R-201	Rev.	00



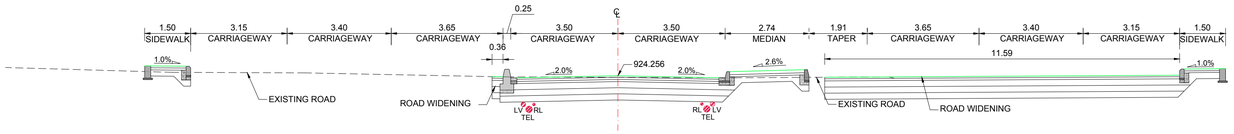
CROSS SECTION AT (STA.0+120)



CROSS SECTION AT (STA.0+140)



CROSS SECTION AT (STA.0+160)



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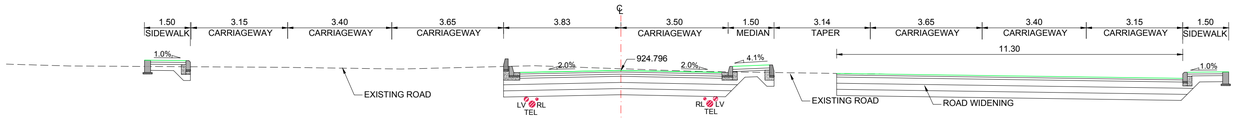
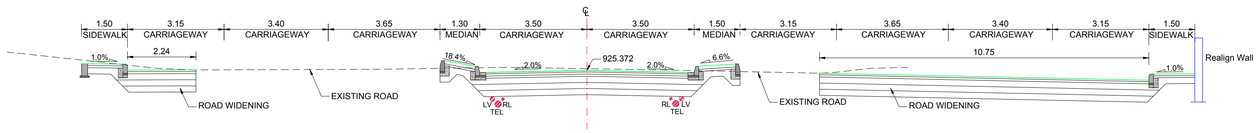


CROSS SECTION AT (STA.0+200)



CROSS SECTION AT (STA.0+220)

NOTES :

Legend

Sleeves along BRT running way

- TEL — 6-inch HD UPVC empty sleeve for future communication installations
- LV — 4-inch HD UPVC empty sleeve for future power installations
- RL — 3-inch HD UPVC conduit for street lighting cable

Rev.	Date	Description	Checked
0			

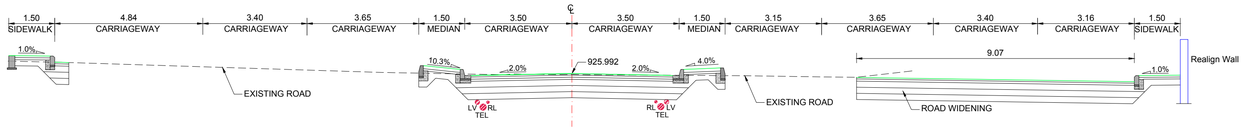
Client: Greater Amman Municipality

Project Name: BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C NASER BIN JAMEEL STREET

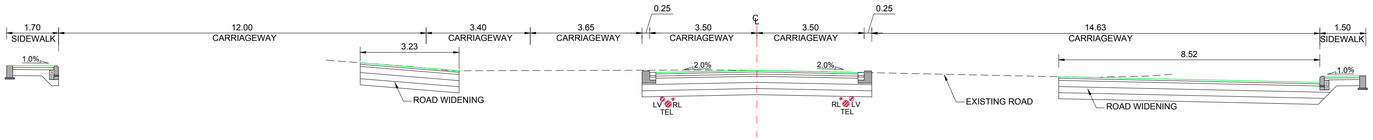
Consultants: steer davies gleave; Consolidated Consultants Group

Drawing Title: ROAD CROSS SECTIONS (2 OF 10)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:100
Drawing No. :	R-202	Rev.	00



CROSS SECTION AT (STA.0+240)



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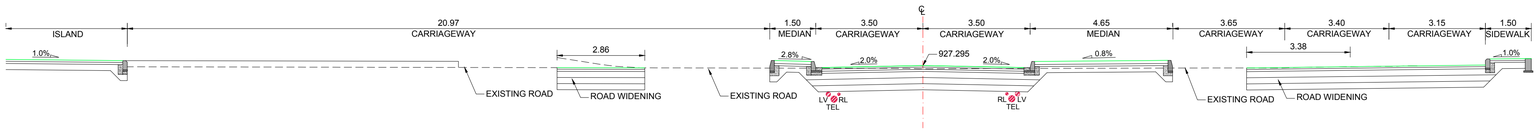
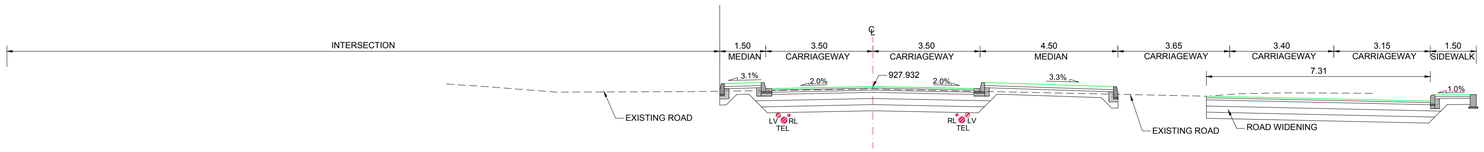
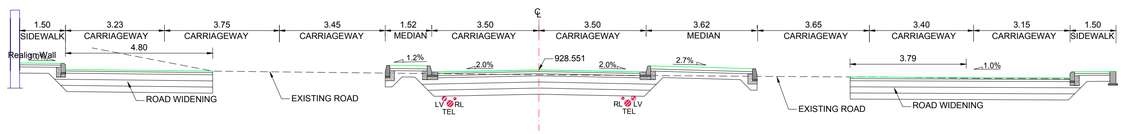


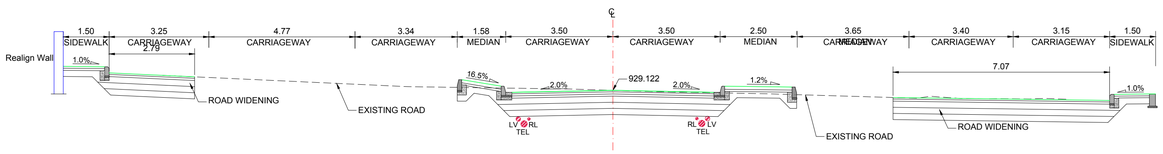
CROSS SECTION AT (STA.0+280)



CROSS SECTION AT (STA.0+300)



CROSS SECTION AT (STA.0+320)



CROSS SECTION AT (STA.0+340)

NOTES :

Legend

Sleeves along BRT running way

TEL — 6-inch HD UPVC empty sleeve for future communication installations

LV — 4-inch HD UPVC empty sleeve for future power installations

RL — 3-inch HD UPVC conduit for street lighting cable

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

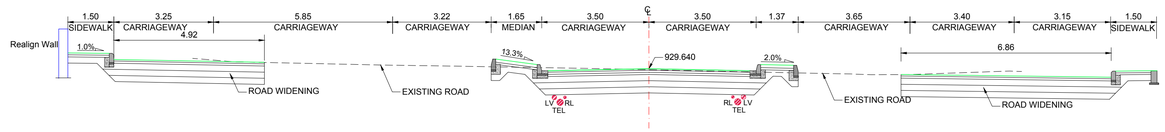
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

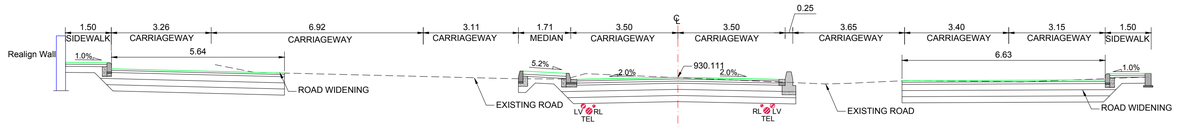
Drawing Title

ROAD CROSS SECTIONS
(3 OF 10)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:100
Drawing No. :	R-203	Rev.	00



CROSS SECTION AT (STA.0+360)



CROSS SECTION AT (STA.0+380)

NOTES :

Legend

Sleeves along BRT running way

TEL — 6-inch HD UPVC empty sleeve for future communication installations

LV — 4-inch HD UPVC empty sleeve for future power installations

RL — 3-inch HD UPVC conduit for street lighting cable

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

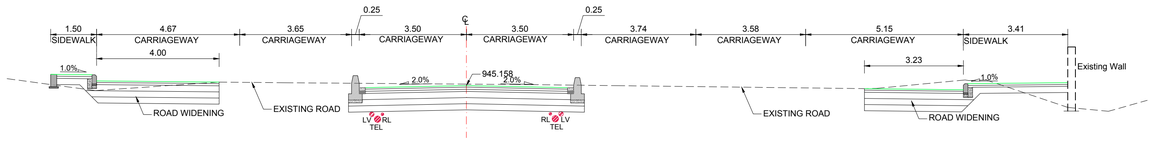
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

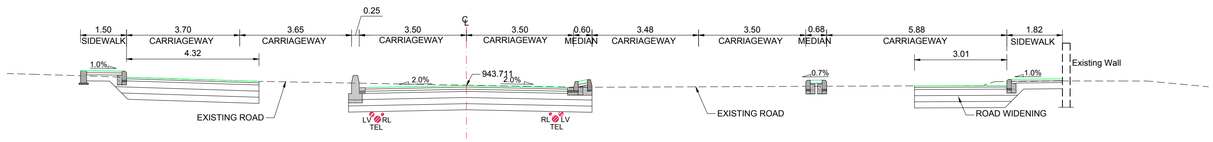
Drawing Title

ROAD CROSS SECTIONS
(4 OF 10)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:100
Drawing No. :	R-204	Rev.	00



CROSS SECTION AT (STA.1+580)



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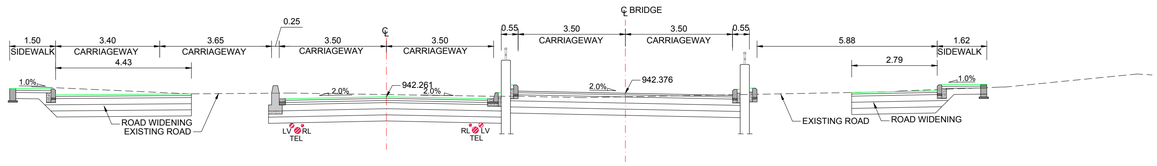

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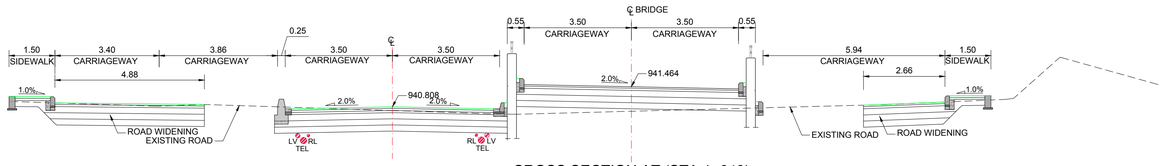
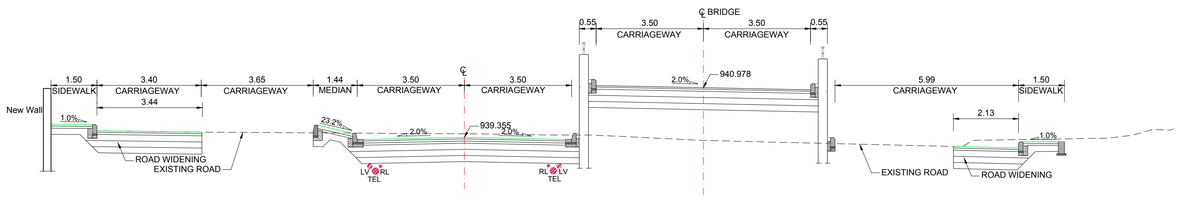


CROSS SECTION AT (STA.1+640)



CROSS SECTION AT (STA.1+660)

NOTES :

Legend

Sleeves along BRT running way

- TEL — 6-inch HD UPVC empty sleeve for future communication installations
- LV — 4-inch HD UPVC empty sleeve for future power installations
- RL — 3-inch HD UPVC conduit for street lighting cable

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

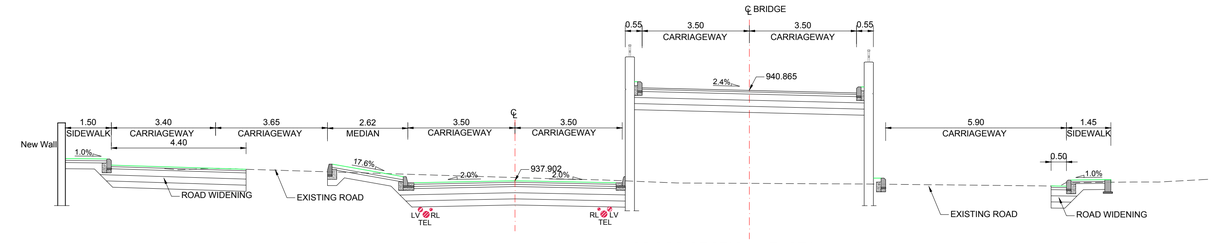
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

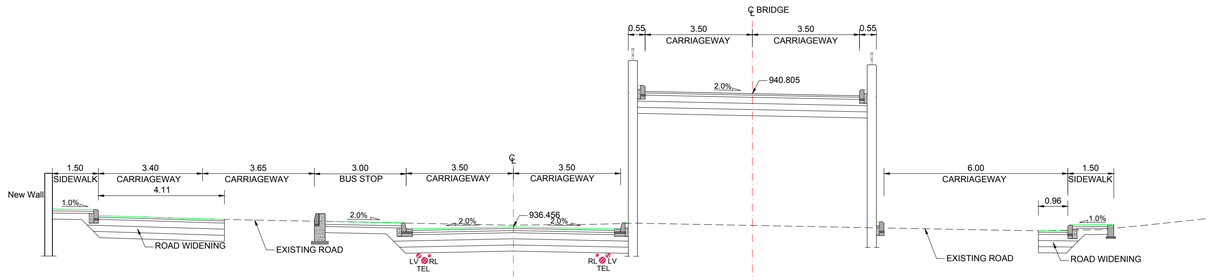
Drawing Title

ROAD CROSS SECTIONS
(5 OF 10)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:100
Drawing No. :	R-205	Rev.	00



CROSS SECTION AT (STA.1+680)



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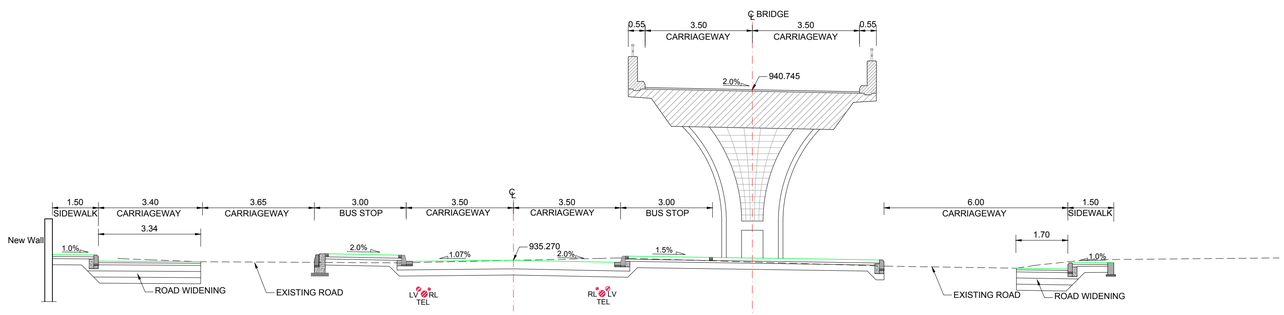

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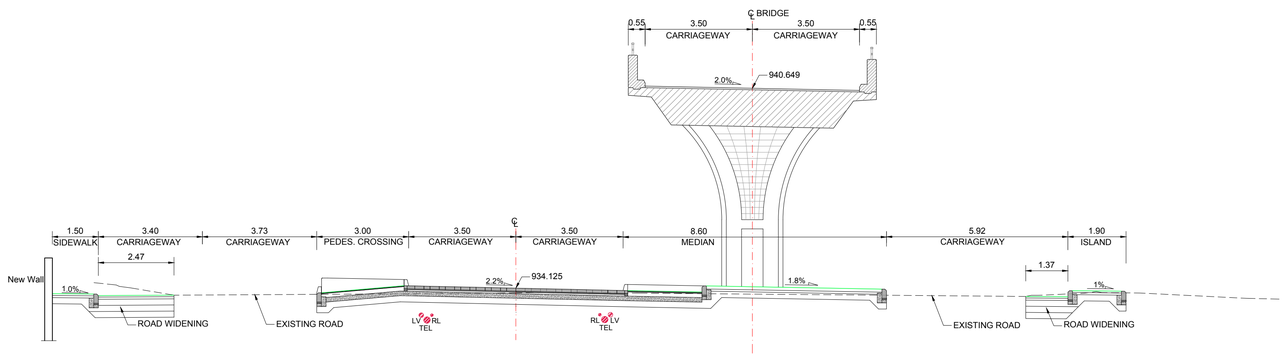


CROSS SECTION AT (STA.1+740)

NOTES :

Legend

Sleeves along BRT running way

TEL	6-inch HD UPVC empty sleeve for future communication installations
LV	4-inch HD UPVC empty sleeve for future power installations
RL	3-inch HD UPVC conduit for street lighting cable

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

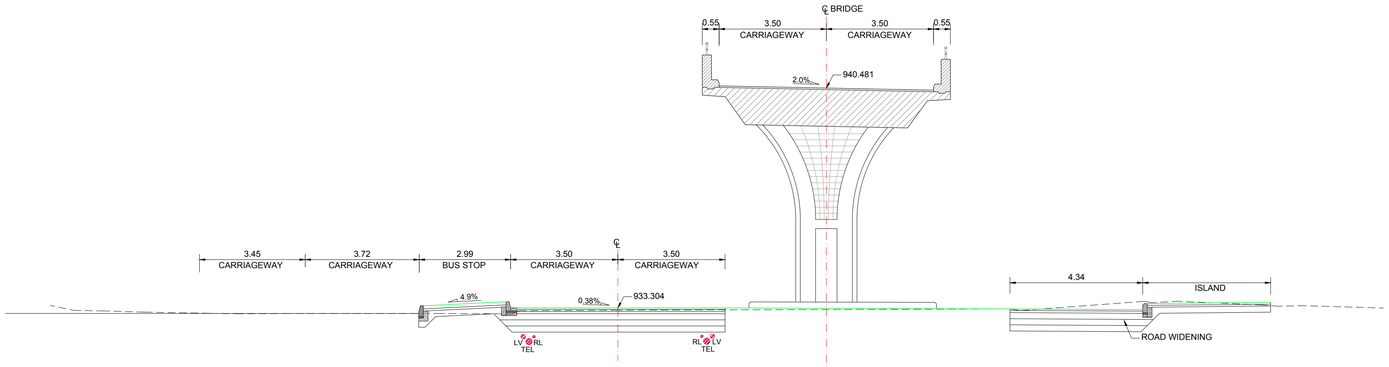
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

ROAD CROSS SECTIONS
(6 OF 10)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:100
Drawing No. :	R-206	Rev.	00



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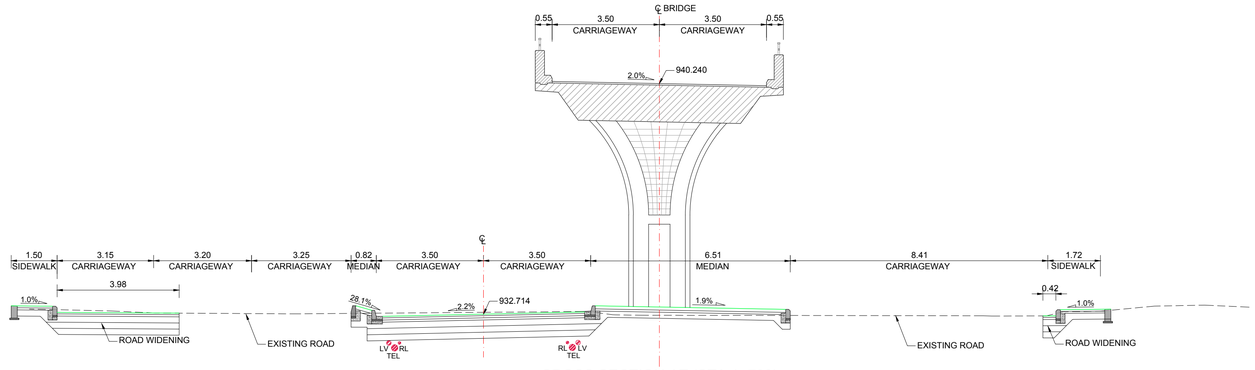

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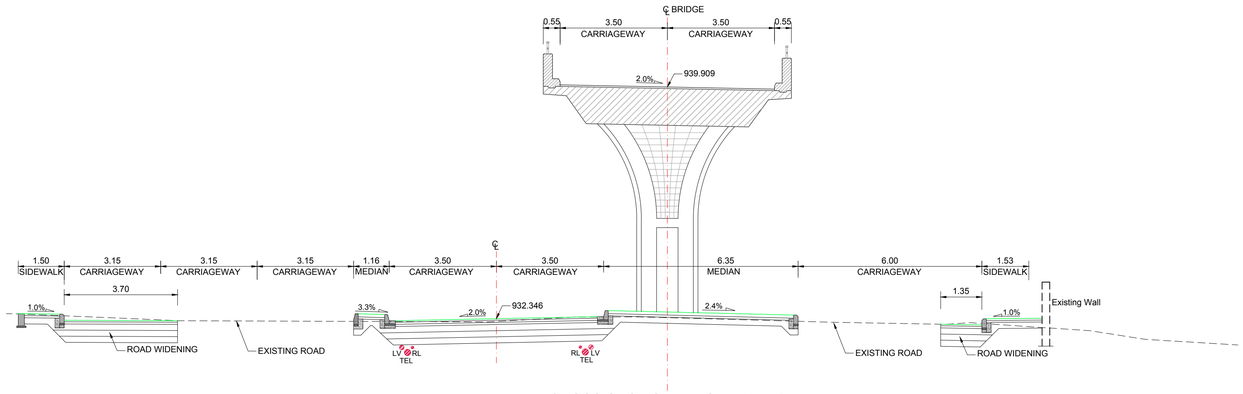
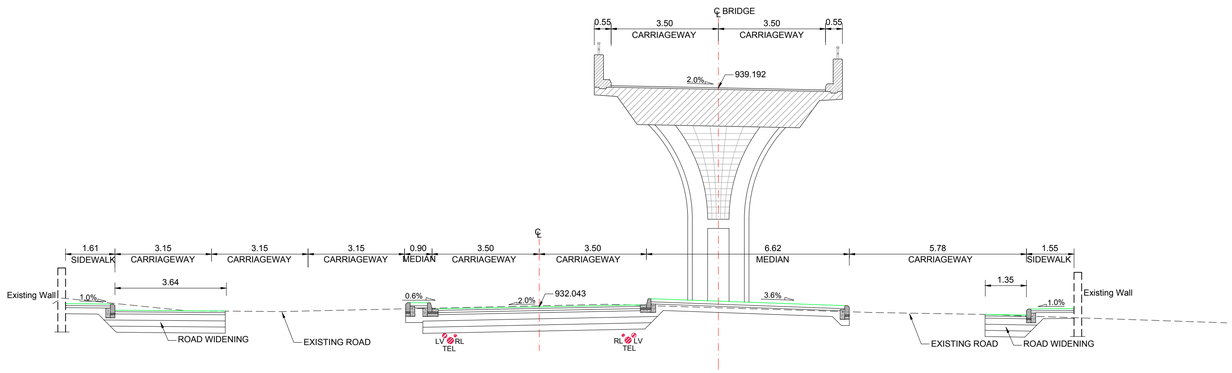


CROSS SECTION AT (STA.1+800)



CROSS SECTION AT (STA.1+820)

NOTES :

Legend

Sleeves along BRT running way

TEL — 6-inch HD UPVC empty sleeve for future communication installations

LV — 4-inch HD UPVC empty sleeve for future power installations

RL — 3-inch HD UPVC conduit for street lighting cable

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

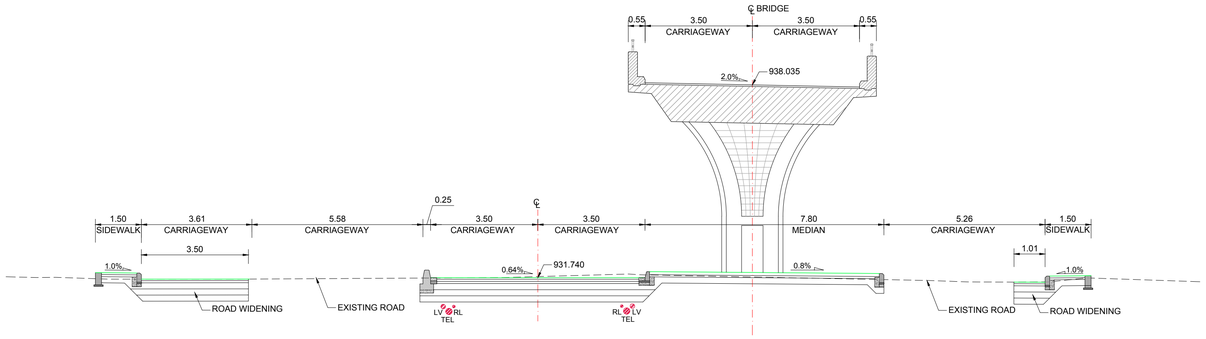
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

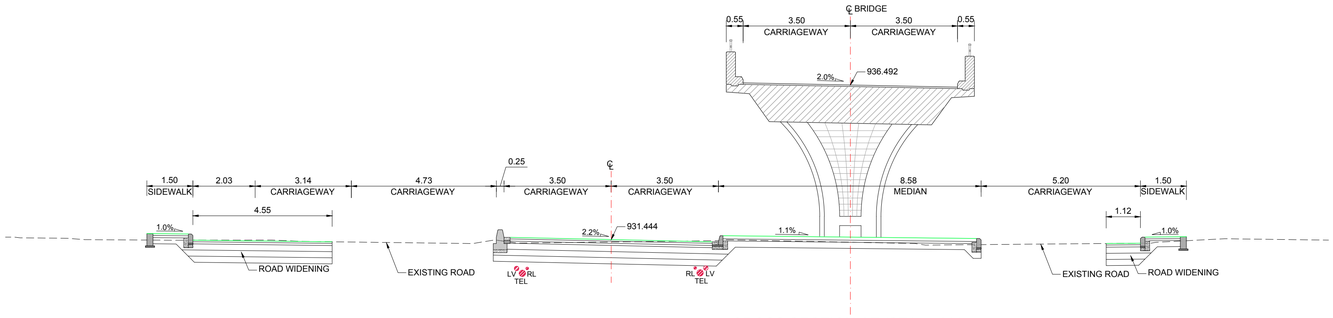
Drawing Title

ROAD CROSS SECTIONS
(7 OF 10)

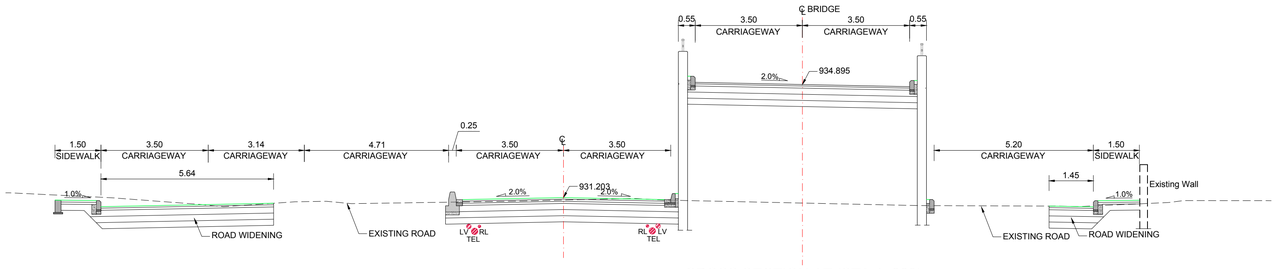
Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:100
Drawing No. :	R-207	Rev.	00



CROSS SECTION AT (STA.1+840)



CROSS SECTION AT (STA.1+860)



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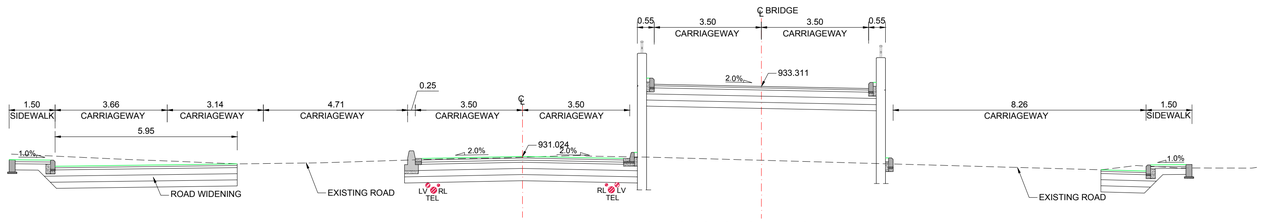

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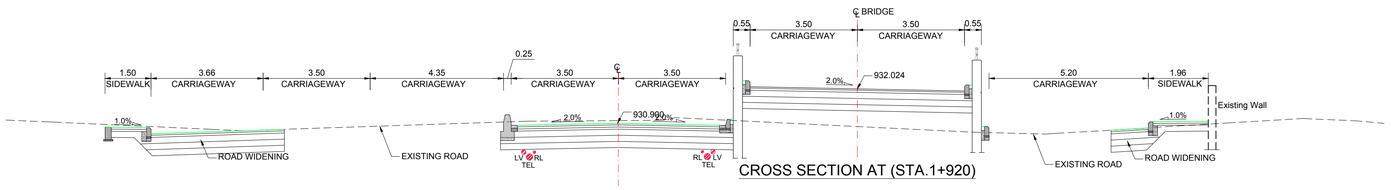


CROSS SECTION AT (STA.1+920)

NOTES :

Legend

Sleeves along BRT running way

TEL 6-inch HD UPVC empty sleeve for future communication installations

LV 4-inch HD UPVC empty sleeve for future power installations

RL 3-inch HD UPVC conduit for street lighting cable

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

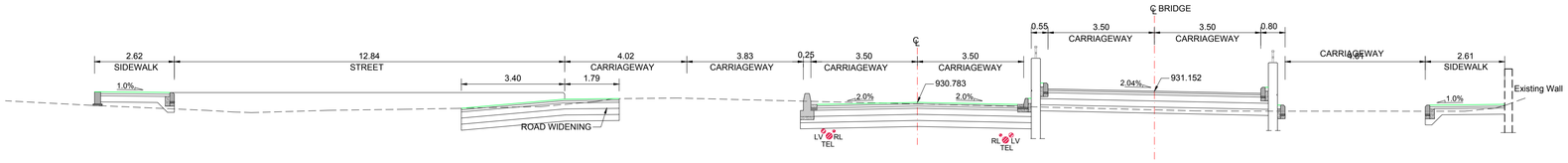
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

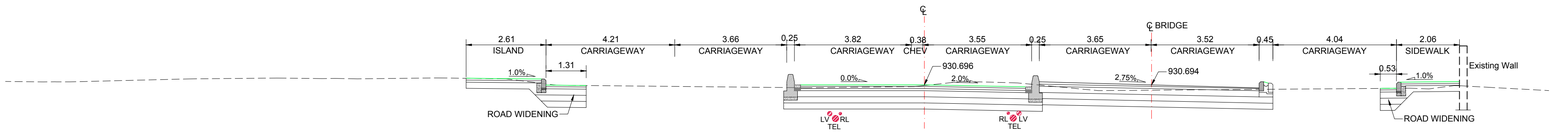
Drawing Title

ROAD CROSS SECTIONS
(8 OF 10)

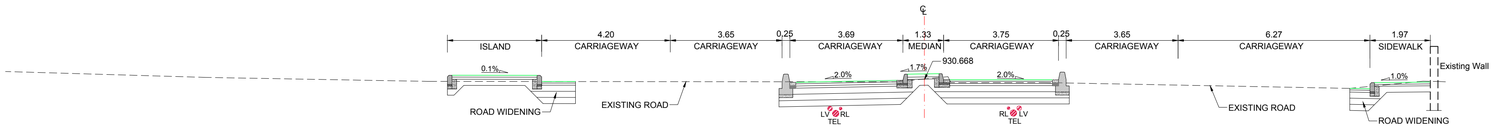
Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:100
Drawing No. :	R-208	Rev.	00



CROSS SECTION AT (STA.1+940)



CROSS SECTION AT (STA.1+960)



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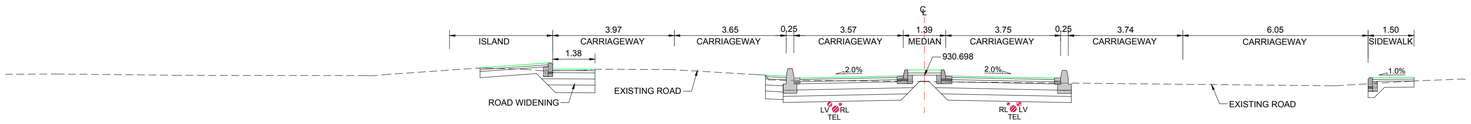
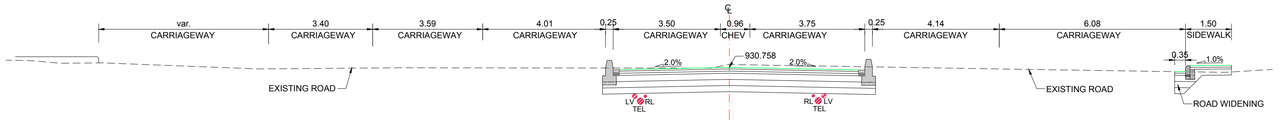


CROSS SECTION AT (STA.2+000)



CROSS SECTION AT (STA.2+020)

NOTES :

Legend

Sleeves along BRT running way

TEL 6-inch HD UPVC empty sleeve for future communication installations

LV 4-inch HD UPVC empty sleeve for future power installations

RL 3-inch HD UPVC conduit for street lighting cable

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

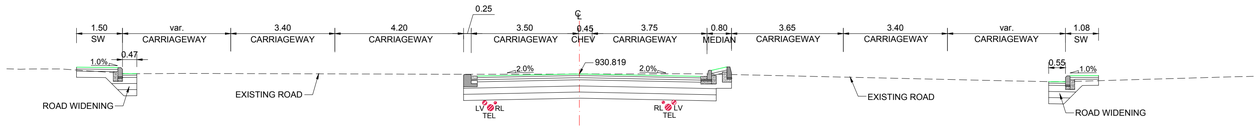
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

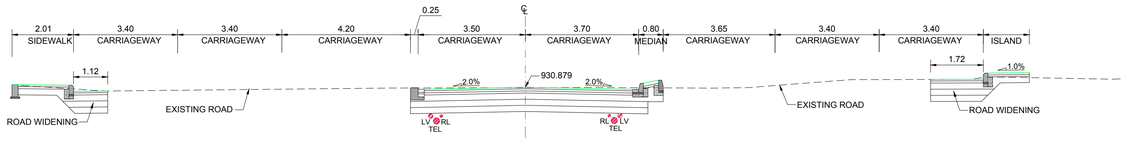
Drawing Title

ROAD CROSS SECTIONS
(9 OF 10)

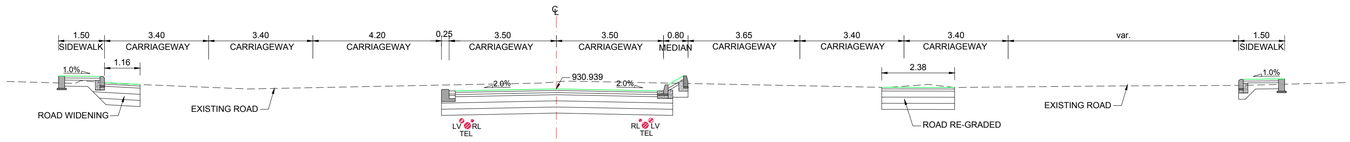
Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:100
Drawing No. :	R-209	Rev.	00



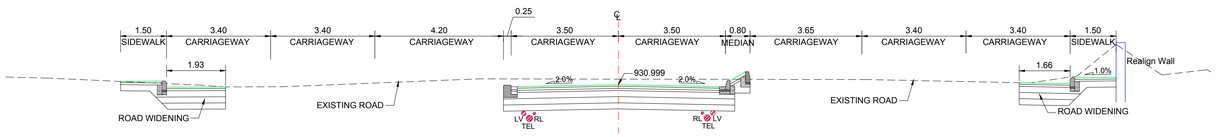
CROSS SECTION AT (STA.2+040)



CROSS SECTION AT (STA.2+060)



CROSS SECTION AT (STA.2+080)



CROSS SECTION AT (STA.2+100)

NOTES :

Legend

Sleeves along BRT running way

TEL	6-inch HD UPVC empty sleeve for future communication installations
LV	4-inch HD UPVC empty sleeve for future power installations
RL	3-inch HD UPVC conduit for street lighting cable

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

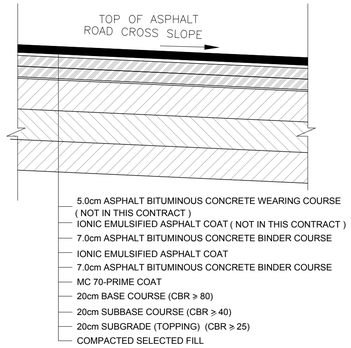
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

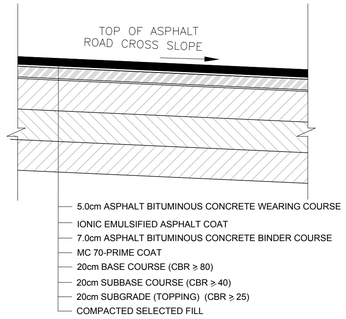
Drawing Title

ROAD CROSS SECTIONS
(10 OF 10)

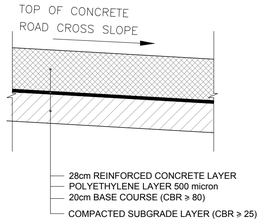
Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:100
Drawing No. :	R-210	Rev.	00



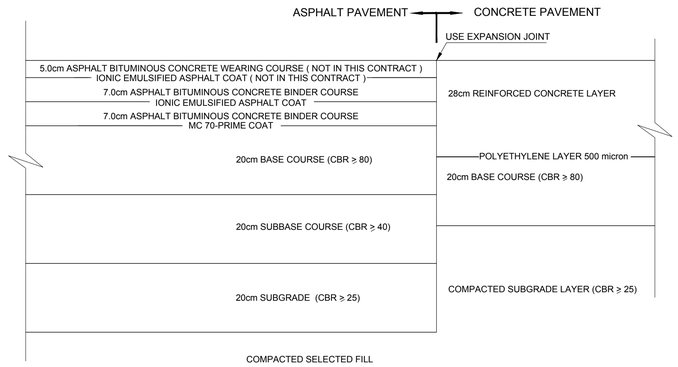
(DETAIL A) ROADS TYPICAL LAYERS
ASPHALT PAVEMENT ON BRT



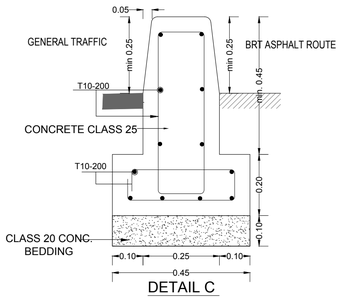
(DETAIL B) ROADS TYPICAL LAYERS
ASPHALT PAVEMENT AT ROAD EXTENSION
AREAS



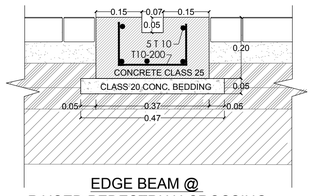
(DETAIL E) ROADS TYPICAL LAYERS
CONCRETE PAVEMENT
AT BRT NEW STATION



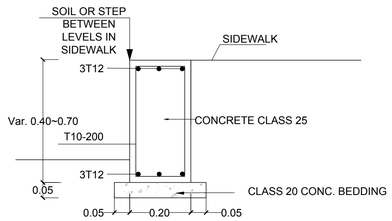
TYPICAL ASPHALT TO CONCRETE JOINT



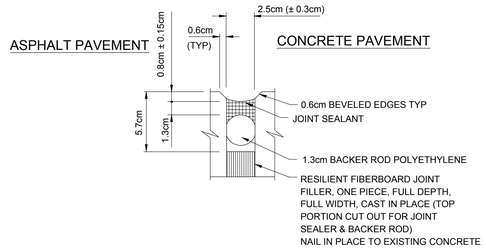
DETAIL C
25cm WIDE DIVIDER FOR BRT
NTS



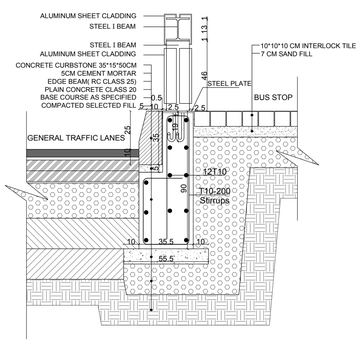
EDGE BEAM @
RAISED PEDESTRIAN CROSSING
AS NEEDED
NTS



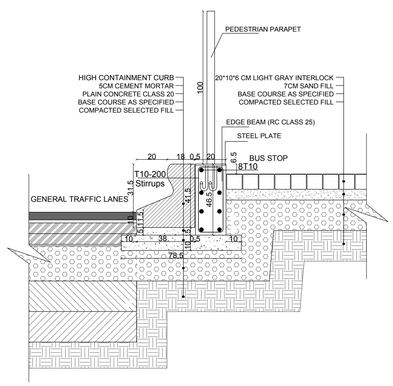
(DETAIL D(TYPICAL EDGE BEAM
AS NEEDED
NTS



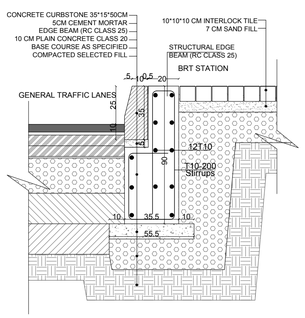
EXPANSION JOINT DETAIL
FOR JOINING ASPHALT AND CONCRETE PAVEMENTS
NTS



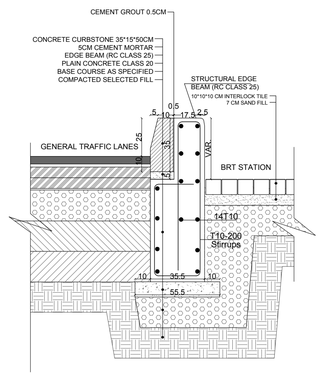
TYPICAL DETAILS AT SAFETY BARRIER
ALTERNATIVE 1
NTS (Dimension in cm)



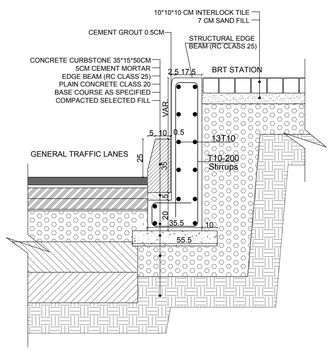
TYPICAL DETAILS AT HIGH CONTAINMENT CURB
ALTERNATIVE 2
NTS (Dimension in cm)



TYPICAL DETAILS IN STRUCTURAL BEAM AT
PLATFORM AREA
NTS (Dimension in cm)



TYPICAL DETAILS IN STRUCTURAL BEAM AT PLATFORM
AREA LOWER THAN GENERAL TRAFFIC LANES)
NTS (Dimension in cm)



TYPICAL DETAILS IN STRUCTURAL BEAM AT PLATFORM
AREA (HIGHER THAN GENERAL TRAFFIC LANES)
NTS (Dimension in cm)

NOTES :

1- Expansion joint between asphalt & concrete pavements:
 * Contractor shall saw edges of pavements straight, vertical and smooth.
 * Joint sealant depth and finishing shall be in accordance with joint sealant manufacturer's specifications.
 * Contractor shall thoroughly clean each face of all joints prior to application of the sealant.
 * Contractor shall place sealant material on dry joint faces.
2- If A6 or A7 material is encountered at subgrade (topping) level in any section, and if natural ground does not satisfy the topping requirements, it should be totally removed for a minimum depth of 40cm and replaced by selected topping of minimum CBR of 25% for the top 20cm and by selected fill of minimum CBR of 15% and maximum PI (15%) for the lower 20cm. if natural ground meet topping requirement (CBR >25%) no need for topping.
3- For details of curbstones and planting areas, see architectural drawings.

Rev.	Date	Description	Checked
0			

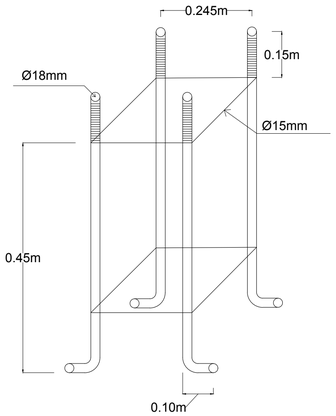
Client
Greater Amman Municipality

Project Name
BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

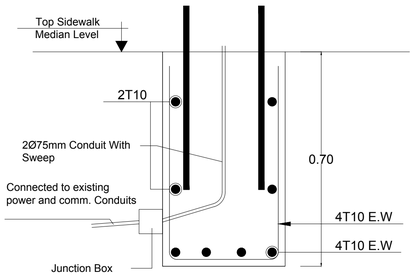
Consultants
steer davies gleave
CONSOLIDATED CONSULTANTS GROUP

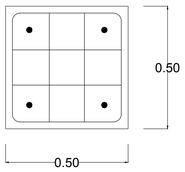
Drawing Title
MISCELLANEOUS DETAILS

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	NTS
Drawing No. :	R-250	Rev.	00

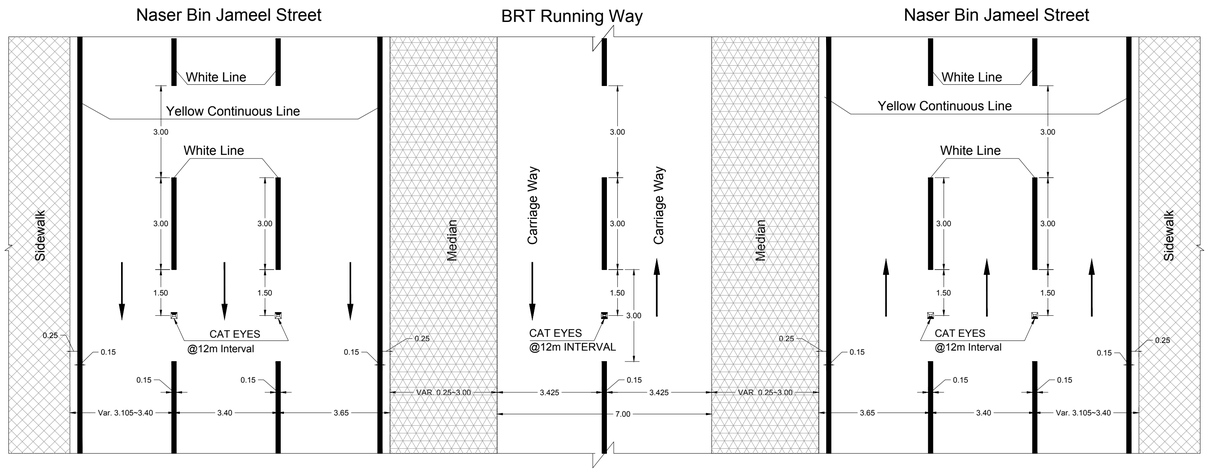


TRAFFIC SIGNAL POLE BASE AND SCREW FIXINGS



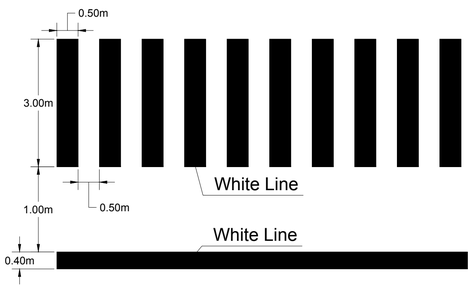


CONCRETE BASE DETAIL FOR TRAFFIC SIGNALS

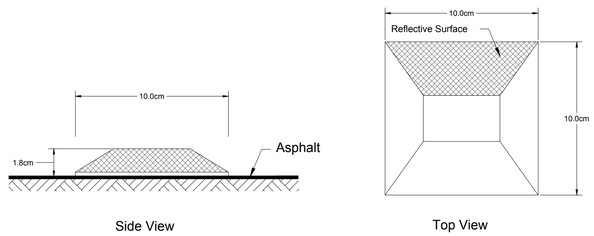


Typical Marking Plan (Dimensions Are In Meters)

Scale 1/100



PAINT PEDESTRIAN CROSSING



TYPICAL ROADWAY MARKER (CAT EYE)

WITH *ONE RETRO-REFLECTIVE FACES

*TWO RETRO-REFLECTIVE FACES FOR B.R.T LANES

NOTES :

1- Marking & cat eyes shall be implemented after resurfacing is done.
2- Marking & cat eyes for B.R.T lanes not included in this contract.
3- White & yellow road markings shall be implemented on Nasser Bin Jameel street for edge / traffic lanes and pedestrian crossings as shown on drawings.
4- Number of regular traffic lanes & their widths vary as shown on plans & detailed in road cross sections drawings.

Rev.	Date	Description	Checked
0			

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C NASER BIN JAMEEL STREET

Consultants

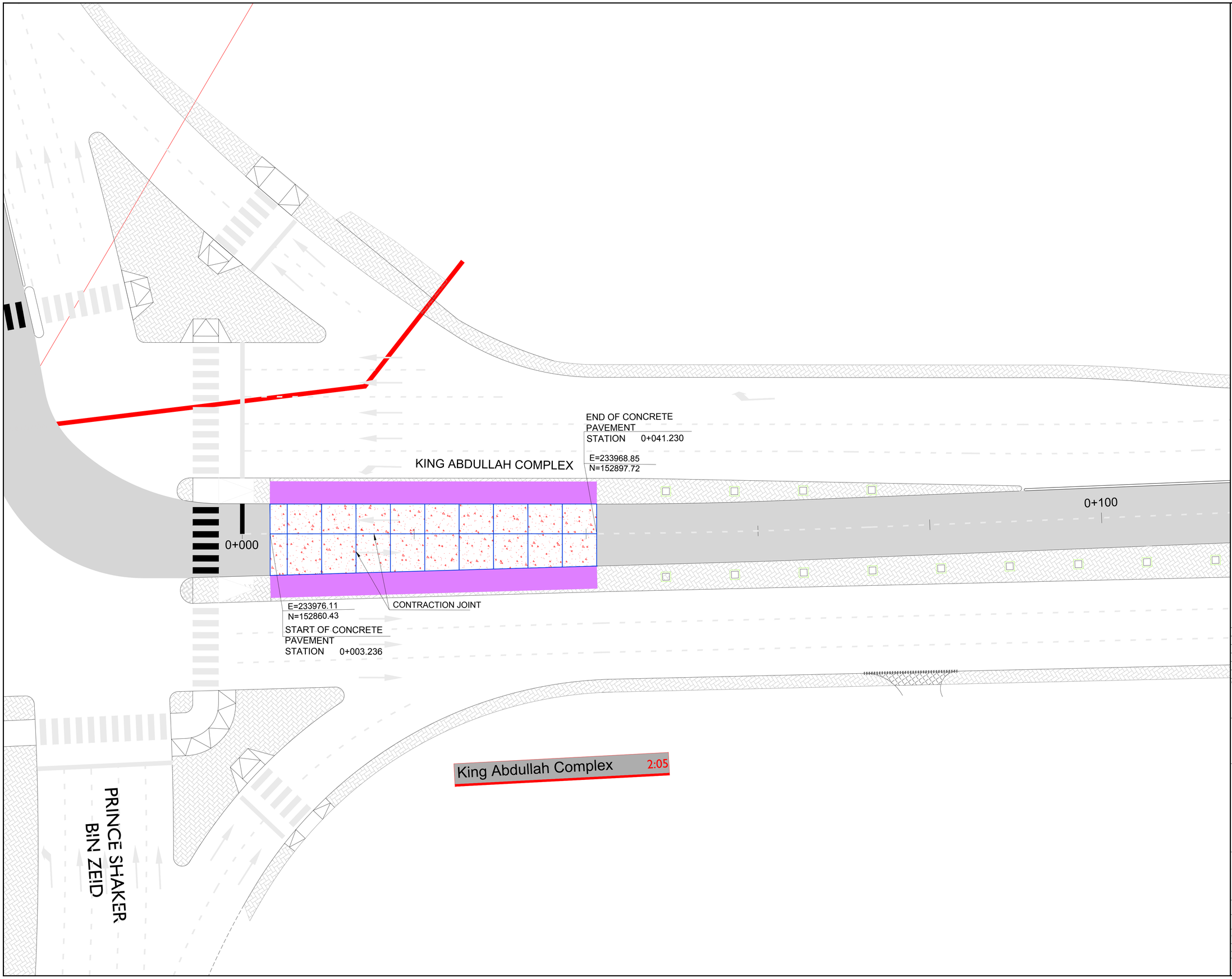
steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

TYPICAL MARKING & TRAFFIC SIGNAL MISCELLANEOUS DETAILS

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	AS SHOWN
Drawing No. :	R-251		Rev. 00



NOTES :

1- Concrete pavement running way shall only be in front of the bus stations.
2- Concrete pavement can have normal cross slope or superelevated slope in one direction. same reinforcement to be used.

Legend:

- Proposed Asphalt Pavement
- Proposed Concrete Pavement
- Proposed Interlock Tiles

Rev.	Date	Description	Checked
0			

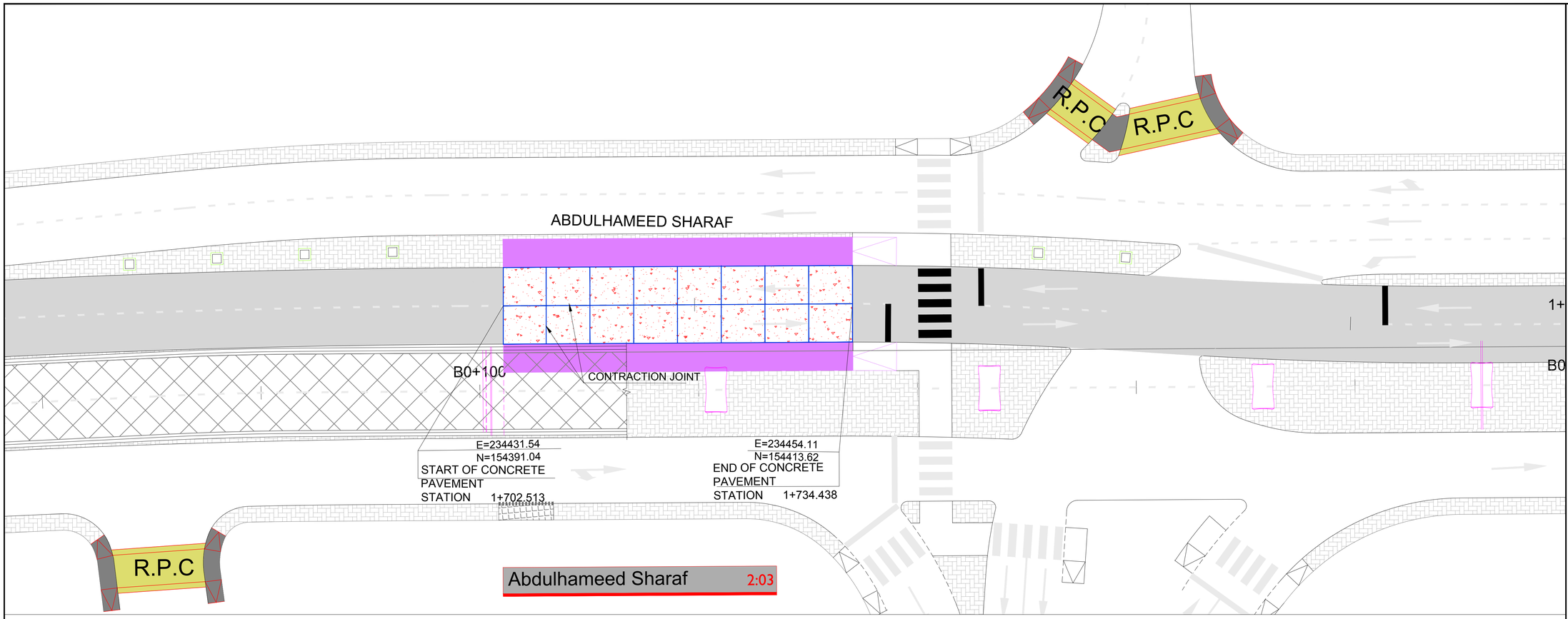
Client: Greater Amman Municipality

Project Name: BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C NASER BIN JAMEEL STREET

Consultants: steer davies gleave; CONSOLIDATED CONSULTANTS GROUP

Drawing Title: CONCRETE PAVEMENT (1 Of 2)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:200
Drawing No. :	R-252	Rev.	00

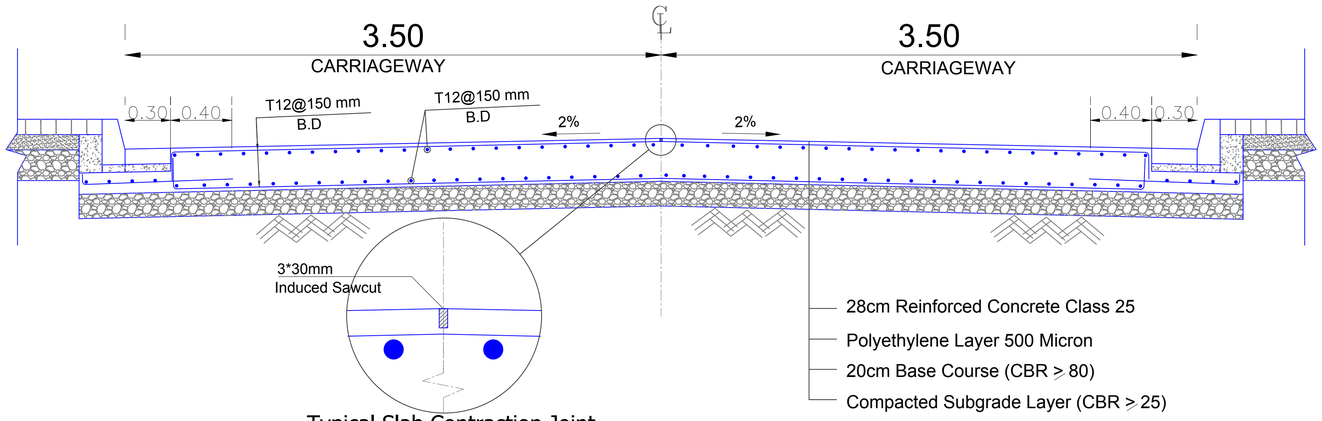


NOTES :

1- Concrete pavement running way shall only be in front of the bus stations.
2- Concrete pavement can have normal cross slope or superelevated slope in one direction. same reinforcement to be used.

Legend:

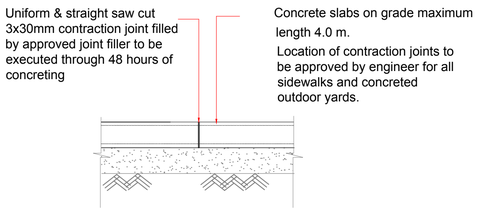
- Proposed Asphalt Pavement
- Proposed Concrete Pavement
- Proposed Interlock Tiles



Typical Slab Contraction Joint

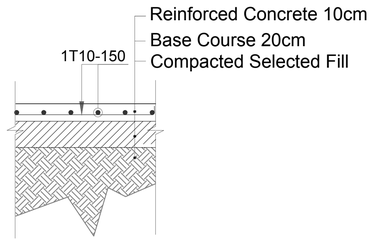
Typical Section in Reinforced Concrete

Scale 1:200



Contraction Joint Section

NTS



Reinforced Concrete Typical 13cm Section

NTS

Rev.	Date	Description	Checked

Client

Greater Amman Municipality

Project Name

BUS RAPID TRANSIT (BRT) SYSTEM IN AMMAN - PACKAGE 10 A & C
NASER BIN JAMEEL STREET

Consultants

steer davies gleave

CONSOLIDATED CONSULTANTS GROUP

Drawing Title

CONCRETE PAVEMENT
(2 Of 2)

Designed By	KH. ZEATER	Date	OCT 2018
Drawn By		Stage	–
Checked By		Sheet Size	A1
Approved By	H. ALSALHI	Scale	1:200
Drawing No. :	R-253	Rev.	00